

ANNUAL GROUNDWATER EXTRACTION SYSTEM PERFORMANCE REPORT HELENA, MONTANA

Prepared For:

CITY OF HELENA
HELENA, MONTANA



Hydrometrics, Inc.
consulting scientists and engineers

OCTOBER 2009

AT
RECEIVED

OCT 23 2009



October 20, 2009

Mr. Martin Van Oort
Environmental Science Specialist
Solid Waste Regulatory Program
Montana Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901

RECEIVED
OCT 23 2009
Dept. of Enviro. Quality
Waste & Underground
Tank Management Bureau

Dear Martin,

On behalf of the City of Helena, I am submitting the annual groundwater extraction system performance report for the City of Helena Landfill, plant ID 049 0014. The groundwater extraction system was installed in the spring of 2000 and is located just north of the landfill boundary. This treatment system includes three extraction wells (HL-99-1, HL-99-2, and HL-99-3) to intercept tetrachloroethene (PCE) impacted groundwater migrating downgradient of the landfill. The extracted groundwater is pumped through aeration nozzles into two lined ponds located on Bill Roberts Golf Course. In accordance with regulations, the treated water is sampled monthly to ensure the treatment goals have been met prior to land application on the golf course.

The groundwater extraction system operated May 16, 2009 through October 6, 2009 for a total of 135 days. Several tables showing all the data collected at the groundwater extraction system over the last year and calculation performed with that data are included as Attachment A to this report. A summary of the operational data is shown in Table 1. With a combined average flow of 59.9 gpm from the three extraction wells, a total of 11.1 million gallons of groundwater were extracted and treated this year.

Table 1. Summary of Operational Data

Extraction Well	Days Operated	Average Flowrate (gpm)	Total Volume Removed (gal)
HL-99-1	57.7*	4.7	638,958
HL-99-2	123.8**	18.8	3,347,521
HL-99-3	134.6	36.5	7,064,956
Total	135	59.9	11,051,436

*The pump in this well burned out in July and will be replaced before the 2010 irrigation season.

**This well was turned off for approximately 11 days in July for repairs.

Groundwater samples are collected in December and June from each of the extraction wells. The field book notes, sampling forms and lab reports for this sampling were included in the December and June data validation reports you have already received. Table 2 includes a summary of the sample results. Only those parameters that were detected in at least one extraction well during the December 2008 or June 2009 sampling events were included. Assuming a conservative treatment level of 0.0005 mg/L for each compound and the total volume pumped for each well, the estimated mass of volatile organic compounds (VOCs) removed from each well was calculated. These values are also shown in Table 2.

Table 2. Extraction Well Sample Results and Mass of VOCs Removed

VOC	HL-99-1		HL-99-2		HL-99-3		Total	
	Average Conc. (mg/L)	Mass Removed (kg)	Average Conc. (mg/L)	Mass Removed (kg)	Average Conc. (mg/L)	Mass Removed (kg)	Average Conc. (mg/L)	Mass Removed (kg)
1,1-Dichloroethane	<0.001	0.0000	0.0022	0.0215	0.0024	0.0495	0.0019	0.0710
Chloroform	0.0020	0.0035	0.0018	0.0158	0.0022	0.0455	0.0020	0.0648
Cis-1,2-dichloroethane	0.0014	0.0021	<0.001	0.0000	<0.001	0.0000	0.0011	0.0021
Dichlorodifluoromethane	<0.001	0.0000	0.0021	0.0203	0.0017	0.0308	0.0016	0.0510
Tetrachloroethene	0.0048	0.0104	0.0054	0.0615	0.0064	0.1564	0.0055	0.2283
Trichloroethene	0.0011	0.0000	0.0011	0.0076	0.0012	0.0187	0.0011	0.0263
Total Mass Removed		0.016		0.127		0.301		0.444

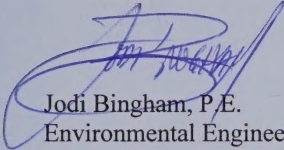
The sample results from the extraction wells indicate that the average PCE concentration being extracted from the system is 0.0055 mg/L. A total of 0.44 kg of VOC's were removed by the groundwater extraction system during the 2009 irrigation season.

During system operation, surface water samples were collected on a monthly basis from the golf course sprinkler system. These water quality samples ensure that treatment goals are met. In addition, a single sample was collected from the east golf course pond during the June sampling event. The field book notes, sampling forms and lab reports for each of these sampling events has been included as Attachment B to this report. An October sampling event was not completed since Golf Course personnel shut down the sprinkler within a week of the September sampling event. Hydrometrics' personnel winterized the extraction system after the system was shut down. The results from the monthly sampling events indicate that all VOCs were below their respective laboratory ultra low detection limits prior to land application.

Mr. Martin Van Oort
October 20, 2009
Page 3

If you have any questions concerning this data or need any additional information to complete your files, please do not hesitate to call me at 443-4150, Ext. 172.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jodi Bingham", is written over the printed name and title.

Jodi Bingham, P.E.
Environmental Engineer/Chemist

c: John Rundquist, City of Helena Public Works Director (w/enclosure)
Ben Sautter, City of Helena Solid Waste Supervisor (w/enclosure)
Mike Wignot, Hydrometrics, Inc. (w/out enclosure)

ATTACHMENT A

**DATA ANALYSIS FOR THE
GROUNDWATER EXTRACTION SYSTEM**

Operational Data:

Date	Time	Hour Meter Reading	Totalizer 1 Reading	Totalizer 2 Reading	Instantaneous Flowmeter Reading	Hours Operated		Volume Extracted		Flowrate	
						Calculated from date	Calculated from hour meter	Calculated from Totalizer 2 Readings	Calculated from Avg. Flow and Hour Meter Readings	Average Flowmeter Reading	Calculated from Totalizer and Hour meter
5/16/2009	14:40	0.0		0	7.42	0	0			7.42	0
5/19/2009	11:25				7.75						
5/28/2009	14:15	287.7	399,054	126,703	7.21						
	last period to date					287.6	287.7	126,703	126,272	7.32	7.3
6/11/2009	13:45	621.0	564,386	292,036	7.83	287.6	287.7	126,703	128,775	7.5	7.3
	last period to date					335.5	333.3	165,333	150,385	7.52	8.3
7/31/2009	11:30	1384.6	880,402	608,050	7.6 (est.)	623.1	621.0	292,036	281,406	7.6	7.8
	last period to date	*pump not working - need to check fuses				1197.8	763.6	316,014	352,382	7.69	6.9
8/28/2009	11:00	1384.6	880,402	608,050	0	1820.8	1384.6	608,050	638,958	7.7	7.3
	last period to date					671.5	0.0	0	0	3.78	0.0
9/30/2009	12:30	1384.6	880,402	608,050	0	2492.3	1384.6	608,050	638,958	6.3	4.1
	last period to date					793.5	0.0	0	0	0.00	0.0
10/6/2009	12:00	1384.6	880,402	608,050	0	3285.8	1384.6	608,050	638,958	5.4	3.1
	last period to date					143.5	0.0	0	0	0.00	0.0
Average/Total for 2009 Operating Season						3429.3	1384.6	608,050	638,958	4.7	3.0

VOC Sample Data (mg/L):

VOC	Cleanup Level*	12/11/2008	6/11/2009	Avg. Conc.	Total Mass (kg)
1,1-Dichloroethane	0.0005	<0.001	<0.001	<0.001	0.0012
Chloroethane	0.0005	<0.001	<0.001	<0.001	0.0012
Chloroform	0.0005	0.0011	0.0028	0.0020	0.0035
Cis-1,2-dichloroethane	0.0005	0.0010	0.0017	0.0014	0.0021
Dichlorodifluoromethane	0.0005	<0.001	<0.001	<0.001	0.0012
Tetrachloroethene	0.0005	0.0059	0.0037	0.0048	0.0104
Trichloroethene	0.0005	0.0012	<0.001	0.0011	0.0015
Trichlorofluoromethane	0.0005	<0.001	<0.001	<0.001	0.0012
Total					0.0222

*This cleanup level is the ultra-low detection limit used when analyzing the surface water samples collected at the golf course pond and sprinkler used for compliance monitoring.

Sample Calculation:

mass of PCE removed (kg) = (avg. PCE conc - cleanup conc) * volume
 (0.0048 mg/L PCE - 0.0005 mg/L) * 638,958 gallons water *
 3.785 L/gal * 1/10⁶ kg/mg = 0.0104 kg PCE removed

Operational Data:

Date	Time	Hour Meter Reading	Totalizer 1 Reading	Totalizer 2 Reading	Instantaneous Flowmeter Reading	Hours Operated		Volume Extracted		Flowrate	
						Calculated from date	Calculated from hour meter	Calculated from Totalizer 2 Readings	Calculated from Flowmeter and Hour Meter Readings	Average Flowmeter Reading	Calculated from Totalizer and Hour meter
5/16/2009	14:30	0.0		0	25.8	0	0				
5/19/2009	11:28				24.2						
5/28/2009	14:10	287.9	407,574	406,115	22.9						
	last period to date					287.7	287.9	406,115	420,622	24.4	23.5
6/11/2009	13:50	622.1	861,251 (est.)	859,792 (est.)	22.4 (est.)	287.7	287.9	406,115	419,758	24.3	23.5
	last period to date		*flowmeter and totalizer not working			335.7	334.2	453,677	453,677	22.6	22.6
						623.3	622.1	859,792	888,825	23.8	23.0
7/31/2009	11:25	1454.0	577,160	575,698	21.8						
	last period to date	*flowmeter was shut down for app. 2 weeks for repairs				1197.6	831.9	715,906	1,101,852	22.1	14.3
						1820.9	1454.0	1,575,697	2,042,288	23.4	18.1
8/28/2009	10:50	2036.2	300,501	299,042	20.5						
	last period to date					671.4	582.2	723,344	738,812	21.2	20.7
						2492.3	2036.2	2,299,041	2,800,793	22.9	18.8
9/30/2009	12:20	2829.4	186,063	184,605	18.8						
	last period to date					793.5	793.2	885,563	935,183	19.7	18.6
						3285.8	2829.4	3,184,604	3,791,800	22.3	18.8
10/6/2009	12:00	2972.3	346,060	347,522	18.0 (est.)						
	last period to date					143.7	142.9	162,917	157,762	18.4	19.0
						3429.5	2972.3	3,347,521	3,886,654	21.8	18.8
Average/Total for 2009 Operating Season						3429.5	2972.3	3,347,521	3,886,654	21.8	18.8

VOC Sample Data (mg/L):

VOC	Cleanup Level	12/11/2008	6/11/2009	Avg. Conc.	Total Mass (kg)
1,1-Dichloroethane	0.0005	0.0030	0.0014	0.0022	0.0215
Chloroethane	0.0005	<0.001	<0.001	<0.001	0.0063
Chloroform	0.0005	0.0020	0.0015	0.0018	0.0158
Cis-1,2-dichloroethane	0.0005	<0.001	<0.001	<0.001	0.0063
Dichlorodifluoromethane	0.0005	0.0029	0.0013	0.0021	0.0203
Tetrachloroethene	0.0005	0.0064	0.0043	0.0054	0.0615
Trichloroethene	0.0005	0.0012	<0.001	0.0011	0.0076
Trichlorofluoromethane	0.0005	<0.001	<0.001	<0.001	0.0063
Total					0.1457

*This cleanup level is the ultra-low detection limit used when analyzing the surface water samples collected at the golf course pond and sprinkler used for compliance monitoring.

Sample Calculation:

mass of PCE removed (kg) = (avg. PCE conc - cleanup conc) * volume
 (0.0054 mg/L PCE - 0.0005 mg/L) * 3,347,521 gallons water *
 3.785 L/gal * 1/10*6 kg/mg = 0.0615 kg PCE removed

Operational Data:

		Hours Operated				Volume Extracted			Flowrate		
Date	Time	Hour Meter Reading	Totalizer 1 Reading	Totalizer 2 Reading	Instantaneous Flowmeter Reading	Calculated from date	Calculated from hour meter	Calculated from Totalizer 2 Readings	Calculated from Flowmeter and Hour Meter Readings	Average Flowmeter Reading	Calculated from Totalizer and Hour meter
5/16/2009	14:40	0.0	0	0	36.0						
5/21/2009	14:30				34.3						
5/28/2009	14:05	287.1	25,887	340,953	34.2						
	last period to date					287.4	287.1	340,953	604,633	35.1	19.8
6/11/2009	13:55	621.8	681,171	996,240	32.8	287.4	287.1	340,953	600,039	34.8	19.8
	last period to date					335.8	334.7	655,287	672,747	33.5	32.6
7/31/2009	11:20	1711.8	245,412	560,453	40.3	623.3	621.8	996,240	1,280,597	34.3	26.7
	last period to date					1197.4	1090.0	2,564,212	2,390,370	36.6	39.2
8/28/2009	10:40	2293.0	647,764	962,809	39.4	1820.7	1711.8	3,560,452	3,648,188	35.5	34.7
	last period to date					671.3	581.2	1,402,356	1,389,649	39.9	40.2
9/30/2009	12:10	3087.1	434,699	749,771	36.4	2492.0	2293.0	4,962,808	4,975,810	36.2	36.1
	last period to date					793.5	794.1	1,786,962	1,805,783	37.9	37.5
10/6/2009	12:00	3230.1	749,895	64,957	36.0 (est.)	3285.5	3087.1	6,749,770	6,705,181	36.2	36.4
	last period to date					143.8	143.0	315,186	310,596	36.2	36.7
Average/Total for 2009 Operating Season						3429.3	3230.1	7,064,956	7,010,932	36.2	36.5

VOC Sample Data (mg/L):

VOC	Cleanup Level	12/11/2009	6/11/2009	Avg. Conc.	Total Mass (kg)
1,1-Dichloroethane	0.0005	0.0020	0.0027	0.0024	0.0495
Chloroethane	0.0005	<0.001	<0.001	<0.001	0.0134
Chloroform	0.0005	0.0021	0.0023	0.0022	0.0455
Cis-1,2-dichloroethane	0.0005	<0.001	<0.001	<0.001	0.0134
Dichlorodifluoromethane	0.0005	0.0012	0.0021	0.0017	0.0308
Tetrachloroethene	0.0005	0.0053	0.0074	0.0064	0.1564
Trichloroethene	0.0005	<0.001	0.0014	0.0012	0.0187
Trichlorofluoromethane	0.0005	<0.001	<0.001	<0.001	0.0134
Total					0.3409

*This cleanup level is the ultra-low detection limit used when analyzing the surface water samples collected at the golf course pond and sprinkler used for compliance monitoring.

Sample Calculation:

mass of PCE removed (kg) = (avg. PCE conc - cleanup conc) * volume
 = (0.0064 mg/L PCE - 0.0005 mg/L) * 7,064,956 gallons water *
 3.785 L/gal * 1/10⁶ kg/mg = 0.1564 kg PCE removed

ATTACHMENT B

**FIELD BOOK NOTES, SAMPLING FORMS AND
LAB REPORTS FOR SURFACE WATER SAMPLES**



LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc
Project: 1273 City of Helena Landfill
Lab ID: H09050361-001
Client Sample ID: CHHL-0905-100

Report Date: 06/15/09
Collection Date: 05/28/09 13:50
Date Received: 05/28/09
Matrix: Aqueous

Pond

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Acetone	2.7	ug/L	J	20		SW8260B	05/29/09 14:29 / abb
Acrylonitrile	ND	ug/L		20		SW8260B	05/29/09 14:29 / abb
Benzene	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
Bromochloromethane	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
Bromodichloromethane	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
Bromoform	0.51	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
Bromomethane	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
Carbon disulfide	ND	ug/L		1.0		SW8260B	05/29/09 14:29 / abb
Carbon tetrachloride	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
Chlorobenzene	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
Chlorodibromomethane	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
Chloroethane	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
Chloroform	0.33	ug/L	J	0.50		SW8260B	05/29/09 14:29 / abb
Chloromethane	ND	ug/L		1.0		SW8260B	05/29/09 14:29 / abb
1,2-Dibromo-3-chloropropane	ND	ug/L		1.0		SW8260B	05/29/09 14:29 / abb
1,2-Dibromoethane	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
Dibromomethane	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
1,2-Dichlorobenzene	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
1,4-Dichlorobenzene	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
trans-1,4-Dichloro-2-butene	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
Dichlorodifluoromethane	ND	ug/L		1.0		SW8260B	05/29/09 14:29 / abb
1,1-Dichloroethane	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
1,2-Dichloroethane	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
1,1-Dichloroethene	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
cis-1,2-Dichloroethene	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
trans-1,2-Dichloroethene	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
1,2-Dichloropropane	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
cis-1,3-Dichloropropene	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
trans-1,3-Dichloropropene	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
Ethylbenzene	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
2-Hexanone	ND	ug/L		20		SW8260B	05/29/09 14:29 / abb
Iodomethane	ND	ug/L		1.0		SW8260B	05/29/09 14:29 / abb
Methyl ethyl ketone	ND	ug/L		20		SW8260B	05/29/09 14:29 / abb
Methyl isobutyl ketone	ND	ug/L		20		SW8260B	05/29/09 14:29 / abb
Methylene chloride	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
Styrene	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
1,1,1,2-Tetrachloroethane	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
1,1,2,2-Tetrachloroethane	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
Tetrachloroethene	0.49	ug/L	J	0.50		SW8260B	05/29/09 14:29 / abb
Toluene	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
1,1,1-Trichloroethane	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
1,1,2-Trichloroethane	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb
Trichloroethene	ND	ug/L		0.50		SW8260B	05/29/09 14:29 / abb

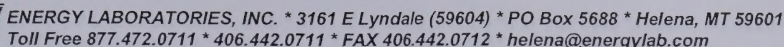
Report RL - Analyte reporting limit.

MCL - Maximum contaminant level.

Definitions: QCL - Quality control limit.

ND - Not detected at the reporting limit.

J - Estimated value. The analyte was present but less than the reporting limit.



Report Date: 06/15/09
Collection Date: 05/28/09 13:50
DateReceived: 05/28/09
Matrix: Aqueous

[illegible]

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



ENERGY LABORATORIES, INC. * 3161 E Lyndale (59604) * PO Box 5688 * Helena, MT 59601
Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc
Project: 1273 City of Helena Landfill
Lab ID: H09050361-002
Client Sample ID: CHHL-0905-101

Sprinkles

Report Date: 06/15/09
Collection Date: 05/28/09 14:00
Date Received: 05/28/09
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Acetone	3.9	ug/L	J	20		SW8260B	05/29/09 14:59 / abb
Acrylonitrile	ND	ug/L		20		SW8260B	05/29/09 14:59 / abb
Benzene	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
Bromochloromethane	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
Bromodichloromethane	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
Bromoform	0.16	ug/L	J	0.50		SW8260B	05/29/09 14:59 / abb
Bromomethane	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
Carbon disulfide	ND	ug/L		1.0		SW8260B	05/29/09 14:59 / abb
Carbon tetrachloride	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
Chlorobenzene	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
Chlorodibromomethane	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
Chloroethane	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
Chloroform	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
Chloromethane	ND	ug/L		1.0		SW8260B	05/29/09 14:59 / abb
1,2-Dibromo-3-chloropropane	ND	ug/L		1.0		SW8260B	05/29/09 14:59 / abb
1,2-Dibromoethane	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
Dibromomethane	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
1,2-Dichlorobenzene	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
1,4-Dichlorobenzene	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
trans-1,4-Dichloro-2-butene	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
Dichlorodifluoromethane	ND	ug/L		1.0		SW8260B	05/29/09 14:59 / abb
1,1-Dichloroethane	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
1,2-Dichloroethane	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
1,1-Dichloroethene	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
cis-1,2-Dichloroethene	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
trans-1,2-Dichloroethene	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
1,2-Dichloropropane	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
cis-1,3-Dichloropropene	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
trans-1,3-Dichloropropene	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
Ethylbenzene	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
2-Hexanone	ND	ug/L		20		SW8260B	05/29/09 14:59 / abb
Iodomethane	ND	ug/L		1.0		SW8260B	05/29/09 14:59 / abb
Methyl ethyl ketone	ND	ug/L		20		SW8260B	05/29/09 14:59 / abb
Methyl isobutyl ketone	ND	ug/L		20		SW8260B	05/29/09 14:59 / abb
Methylene chloride	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
Styrene	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
1,1,1,2-Tetrachloroethane	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
1,1,2,2-Tetrachloroethane	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
Tetrachloroethene	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
Toluene	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
1,1,1-Trichloroethane	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
1,1,2-Trichloroethane	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
Trichloroethene	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb

Report RL - Analyte reporting limit.

MCL - Maximum contaminant level.

Definitions: QCL - Quality control limit.

ND - Not detected at the reporting limit.

J - Estimated value. The analyte was present but less than the reporting limit.



ENERGY LABORATORIES, INC. * 3161 E Lyndale (59604) * PO Box 5688 * Helena, MT 59601
Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc
Project: 1273 City of Helena Landfill
Lab ID: H09050361-002
Client Sample ID: CHHL-0905-101

Report Date: 06/15/09
Collection Date: 05/28/09 14:00
Date Received: 05/28/09
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Trichlorofluoromethane	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
1,2,3-Trichloropropane	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
Vinyl acetate	ND	ug/L		1.0		SW8260B	05/29/09 14:59 / abb
Vinyl chloride	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
m+p-Xylenes	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
o-Xylene	ND	ug/L		0.50		SW8260B	05/29/09 14:59 / abb
Surr: 1,2-Dichloroethane-d4	101	%REC		70-130		SW8260B	05/29/09 14:59 / abb
Surr: Dibromofluoromethane	84.0	%REC		70-130		SW8260B	05/29/09 14:59 / abb
Surr: p-Bromofluorobenzene	102	%REC		70-130		SW8260B	05/29/09 14:59 / abb
Surr: Toluene-d8	100	%REC		70-130		SW8260B	05/29/09 14:59 / abb

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



ENERGY LABORATORIES, INC. * 3161 E Lyndale (59604) * PO Box 5688 * Helena, MT 59601
Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City of Helena Landfill

Report Date: 06/15/09
Work Order: H09050361

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B		Analytical Run: 1SATURN_090529B								
Sample ID: CCV052909A		53 Continuing Calibration Verification Standard								05/29/09 10:51
Acetone		52.4	ug/L	20	105	70	130			
Acrylonitrile		57.6	ug/L	20	115	70	130			
Benzene		4.52	ug/L	1.0	90	70	130			
Bromochloromethane		5.08	ug/L	1.0	102	70	130			
Bromodichloromethane		4.76	ug/L	1.0	95	70	130			
Bromoform		4.64	ug/L	1.0	93	70	130			
Bromomethane		4.44	ug/L	1.0	89	70	130			
Carbon disulfide		4.68	ug/L	1.0	94	70	130			
Carbon tetrachloride		4.56	ug/L	1.0	91	70	130			
Chlorobenzene		5.16	ug/L	1.0	103	70	130			
Chlorodibromomethane		4.68	ug/L	1.0	94	70	130			
Chloroethane		5.24	ug/L	1.0	105	70	130			
Chloroform		4.96	ug/L	1.0	99	80	120			
Chloromethane		4.92	ug/L	1.0	98	70	130			
1,2-Dibromo-3-chloropropane		4.72	ug/L	1.0	94	70	130			
1,2-Dibromoethane		4.84	ug/L	1.0	97	70	130			
Dibromomethane		4.96	ug/L	1.0	99	70	130			
1,2-Dichlorobenzene		4.84	ug/L	1.0	97	70	130			
1,4-Dichlorobenzene		5.04	ug/L	1.0	101	70	130			
trans-1,4-Dichloro-2-butene		4.48	ug/L	1.0	90	70	130			
Dichlorodifluoromethane		5.40	ug/L	1.0	108	70	130			
1,1-Dichloroethane		4.96	ug/L	1.0	99	70	130			
1,2-Dichloroethane		4.92	ug/L	1.0	98	70	130			
1,1-Dichloroethene		4.92	ug/L	1.0	98	80	120			
cis-1,2-Dichloroethene		5.00	ug/L	1.0	100	70	130			
trans-1,2-Dichloroethene		4.92	ug/L	1.0	98	70	130			
1,2-Dichloropropane		5.16	ug/L	1.0	103	80	120			
cis-1,3-Dichloropropene		5.08	ug/L	1.0	102	70	130			
trans-1,3-Dichloropropene		5.32	ug/L	1.0	106	70	130			
Ethylbenzene		4.96	ug/L	1.0	99	80	120			
2-Hexanone		48.8	ug/L	20	98	70	130			
Iodomethane		4.60	ug/L	1.0	92	70	130			
Methyl ethyl ketone		54.8	ug/L	20	110	70	130			
Methyl isobutyl ketone		48.8	ug/L	20	98	70	130			
Methylene chloride		4.84	ug/L	1.0	97	70	130			
Styrene		4.84	ug/L	1.0	97	70	130			
1,1,1,2-Tetrachloroethane		5.56	ug/L	1.0	111	70	130			
1,1,2,2-Tetrachloroethane		4.88	ug/L	1.0	98	70	130			
Tetrachloroethene		5.00	ug/L	1.0	100	70	130			
Toluene		4.28	ug/L	1.0	86	80	120			
1,1,1-Trichloroethane		4.88	ug/L	1.0	98	70	130			
1,1,2-Trichloroethane		5.24	ug/L	1.0	105	70	130			
Trichloroethene		4.64	ug/L	1.0	93	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



ENERGY LABORATORIES, INC. * 3161 E Lyndale (59604) * PO Box 5688 * Helena, MT 59601
Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City of Helena Landfill

Report Date: 06/15/09
Work Order: H09050361

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B		Analytical Run: 1SATURN_090529B								
Sample ID: CCV052909A		53 Continuing Calibration Verification Standard								05/29/09 10:51
Trichlorofluoromethane		5.04	ug/L	1.0	101	70	130			
1,2,3-Trichloropropane		5.68	ug/L	1.0	114	70	130			
Vinyl acetate		5.12	ug/L	1.0	102	70	130			
Vinyl chloride		4.36	ug/L	1.0	87	80	120			
m+p-Xylenes		9.12	ug/L	1.0	91	70	130			
o-Xylene		4.76	ug/L	1.0	95	70	130			
Surr: 1,2-Dichloroethane-d4				1.0	113	70	130			
Surr: Dibromofluoromethane				1.0	88	70	130			
Surr: p-Bromofluorobenzene				1.0	97	70	130			
Surr: Toluene-d8				1.0	97	70	130			

Method: SW8260B		Batch: R54029					
Sample ID: LCS052909A	53 Laboratory Control Sample			Run: 1SATURN_090529B			05/29/09 11:28
Acetone	43.2	ug/L	20	86	70	130	
Acrylonitrile	47.2	ug/L	20	94	70	130	
Benzene	4.64	ug/L	1.0	93	70	130	
Bromochloromethane	5.00	ug/L	1.0	100	70	130	
Bromodichloromethane	4.84	ug/L	1.0	97	70	130	
Bromoform	4.44	ug/L	1.0	89	70	130	
Bromomethane	3.98	ug/L	1.0	80	70	130	
Carbon disulfide	4.64	ug/L	1.0	93	70	130	
Carbon tetrachloride	4.84	ug/L	1.0	97	70	130	
Chlorobenzene	5.24	ug/L	1.0	105	70	130	
Chlorodibromomethane	4.76	ug/L	1.0	95	70	130	
Chloroethane	4.48	ug/L	1.0	90	70	130	
Chloroform	4.80	ug/L	1.0	96	70	130	
Chloromethane	4.04	ug/L	1.0	81	70	130	
1,2-Dibromo-3-chloropropane	4.40	ug/L	1.0	88	70	130	
1,2-Dibromoethane	4.56	ug/L	1.0	91	70	130	
Dibromomethane	4.84	ug/L	1.0	97	70	130	
1,2-Dichlorobenzene	5.20	ug/L	1.0	104	70	130	
1,4-Dichlorobenzene	5.24	ug/L	1.0	105	70	130	
trans-1,4-Dichloro-2-butene	5.16	ug/L	1.0	103	70	130	
Dichlorodifluoromethane	3.66	ug/L	1.0	73	70	130	
1,1-Dichloroethane	5.08	ug/L	1.0	102	70	130	
1,2-Dichloroethane	4.72	ug/L	1.0	94	70	130	
1,1-Dichloroethene	5.28	ug/L	1.0	106	70	130	
cis-1,2-Dichloroethene	4.48	ug/L	1.0	90	70	130	
trans-1,2-Dichloroethene	5.24	ug/L	1.0	105	70	130	
1,2-Dichloropropane	4.96	ug/L	1.0	99	70	130	
cis-1,3-Dichloropropene	5.04	ug/L	1.0	101	70	130	
trans-1,3-Dichloropropene	4.84	ug/L	1.0	97	70	130	
Ethylbenzene	5.48	ug/L	1.0	110	70	130	
2-Hexanone	44.0	ug/L	20	88	70	130	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



ENERGY LABORATORIES, INC. * 3161 E Lyndale (59604) * PO Box 5688 * Helena, MT 59601
Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City of Helena Landfill

Report Date: 06/15/09
Work Order: H09050361

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R54029
Sample ID: LCS052909A	53	Laboratory Control Sample			Run: 1SATURN_090529B			05/29/09 11:28		
Iodomethane		4.64	ug/L	1.0	93	70	130			
Methyl ethyl ketone		43.2	ug/L	20	86	70	130			
Methyl isobutyl ketone		43.6	ug/L	20	87	70	130			
Methylene chloride		4.80	ug/L	1.0	96	70	130			
Styrene		4.88	ug/L	1.0	98	70	130			
1,1,1,2-Tetrachloroethane		5.16	ug/L	1.0	103	70	130			
1,1,2,2-Tetrachloroethane		4.76	ug/L	1.0	95	70	130			
Tetrachloroethene		4.96	ug/L	1.0	99	70	130			
Toluene		4.72	ug/L	1.0	94	70	130			
1,1,1-Trichloroethane		5.04	ug/L	1.0	101	70	130			
1,1,2-Trichloroethane		5.04	ug/L	1.0	101	70	130			
Trichloroethene		5.32	ug/L	1.0	106	70	130			
Trichlorofluoromethane		4.52	ug/L	1.0	90	70	130			
1,2,3-Trichloropropane		4.84	ug/L	1.0	97	70	130			
Vinyl acetate		4.40	ug/L	1.0	88	70	130			
Vinyl chloride		4.16	ug/L	1.0	83	70	130			
m+p-Xylenes		10.6	ug/L	1.0	106	70	130			
o-Xylene		5.00	ug/L	1.0	100	70	130			
Surr: 1,2-Dichloroethane-d4				1.0	90	70	130			
Surr: Dibromofluoromethane				1.0	82	70	130			
Surr: p-Bromofluorobenzene				1.0	98	70	130			
Surr: Toluene-d8				1.0	96	70	130			
Sample ID: MB052909A	53	Method Blank			Run: 1SATURN_090529B			05/29/09 12:31		
Acetone		ND	ug/L	20						
Acrylonitrile		ND	ug/L	20						
Benzene		ND	ug/L	1.0						
Bromochloromethane		ND	ug/L	1.0						
Bromodichloromethane		ND	ug/L	1.0						
Bromoform		ND	ug/L	1.0						
Bromomethane		ND	ug/L	1.0						
Carbon disulfide		ND	ug/L	1.0						
Carbon tetrachloride		ND	ug/L	1.0						
Chlorobenzene		ND	ug/L	1.0						
Chlorodibromomethane		ND	ug/L	1.0						
Chloroethane		ND	ug/L	1.0						
Chloroform		ND	ug/L	1.0						
Chloromethane		ND	ug/L	1.0						
1,2-Dibromo-3-chloropropane		ND	ug/L	1.0						
1,2-Dibromoethane		ND	ug/L	1.0						
Dibromomethane		ND	ug/L	1.0						
1,2-Dichlorobenzene		ND	ug/L	1.0						
1,4-Dichlorobenzene		ND	ug/L	1.0						
trans-1,4-Dichloro-2-butene		ND	ug/L	1.0						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



ENERGY LABORATORIES, INC. * 3161 E Lyndale (59604) * PO Box 5688 * Helena, MT 59601
Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City of Helena Landfill

Report Date: 06/15/09
Work Order: H09050361

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R54029
Sample ID: MB052909A	53	Method Blank				Run: 1SATURN_090529B				05/29/09 12:31
Dichlorodifluoromethane		ND	ug/L	1.0						
1,1-Dichloroethane		ND	ug/L	1.0						
1,2-Dichloroethane		ND	ug/L	1.0						
1,1-Dichloroethene		ND	ug/L	1.0						
cis-1,2-Dichloroethene		ND	ug/L	1.0						
trans-1,2-Dichloroethene		ND	ug/L	1.0						
1,2-Dichloropropane		ND	ug/L	1.0						
cis-1,3-Dichloropropene		ND	ug/L	1.0						
trans-1,3-Dichloropropene		ND	ug/L	1.0						
Ethylbenzene		ND	ug/L	1.0						
2-Hexanone		ND	ug/L	20						
Iodomethane		ND	ug/L	1.0						
Methyl ethyl ketone		ND	ug/L	20						
Methyl isobutyl ketone		ND	ug/L	20						
Methylene chloride		ND	ug/L	1.0						
Styrene		ND	ug/L	1.0						
1,1,1,2-Tetrachloroethane		ND	ug/L	1.0						
1,1,2,2-Tetrachloroethane		ND	ug/L	1.0						
Tetrachloroethene		ND	ug/L	1.0						
Toluene		ND	ug/L	1.0						
1,1,1-Trichloroethane		ND	ug/L	1.0						
1,1,2-Trichloroethane		ND	ug/L	1.0						
Trichloroethene		ND	ug/L	1.0						
Trichlorofluoromethane		ND	ug/L	1.0						
1,2,3-Trichloropropane		ND	ug/L	1.0						
Vinyl acetate		ND	ug/L	1.0						
Vinyl chloride		ND	ug/L	1.0						
m+p-Xylenes		ND	ug/L	1.0						
o-Xylene		ND	ug/L	1.0						
Surr: 1,2-Dichloroethane-d4				1.0	122	70	130			
Surr: Dibromofluoromethane				1.0	95	70	130			
Surr: p-Bromofluorobenzene				1.0	89	70	130			
Surr: Toluene-d8				1.0	97	70	130			
Sample ID: H09050361-001AMS	53	Sample Matrix Spike				Run: 1SATURN_090529B				05/29/09 15:34
Acetone		78.4	ug/L	40	76	70	130			
Acrylonitrile		92.8	ug/L	40	93	70	130			
Benzene		9.28	ug/L	2.0	93	70	130			
Bromochloromethane		9.44	ug/L	2.0	94	70	130			
Bromodichloromethane		9.12	ug/L	2.0	91	70	130			
Bromoform		9.52	ug/L	2.0	90	70	130			
Bromomethane		9.12	ug/L	2.0	91	70	130			
Carbon disulfide		9.28	ug/L	2.0	93	70	130			
Carbon tetrachloride		9.12	ug/L	2.0	91	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



ENERGY LABORATORIES, INC. * 3161 E Lyndale (59604) * PO Box 5688 * Helena, MT 59601
Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City of Helena Landfill

Report Date: 06/15/09
Work Order: H09050361

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R54029
Sample ID: H09050361-001AMS 53 Sample Matrix Spike										Run: 1SATURN_090529B 05/29/09 15:34
Chlorobenzene		9.84	ug/L	2.0	98	70	130			
Chlorodibromomethane		8.48	ug/L	2.0	85	70	130			
Chloroethane		8.08	ug/L	2.0	81	70	130			
Chloroform		9.36	ug/L	2.0	90	70	130			
Chloromethane		7.45	ug/L	2.0	74	70	130			
1,2-Dibromo-3-chloropropane		8.48	ug/L	2.0	85	70	130			
1,2-Dibromoethane		8.00	ug/L	2.0	80	70	130			
Dibromomethane		9.76	ug/L	2.0	98	70	130			
1,2-Dichlorobenzene		9.44	ug/L	2.0	94	70	130			
1,4-Dichlorobenzene		10.2	ug/L	2.0	102	70	130			
trans-1,4-Dichloro-2-butene		10.7	ug/L	2.0	107	70	130			
Dichlorodifluoromethane		7.28	ug/L	2.0	73	70	130			
1,1-Dichloroethane		10.1	ug/L	2.0	101	70	130			
1,2-Dichloroethane		8.40	ug/L	2.0	84	70	130			
1,1-Dichloroethene		10.8	ug/L	2.0	108	70	130			
cis-1,2-Dichloroethene		9.52	ug/L	2.0	95	70	130			
trans-1,2-Dichloroethene		10.6	ug/L	2.0	106	70	130			
1,2-Dichloropropane		9.84	ug/L	2.0	98	70	130			
cis-1,3-Dichloropropene		9.28	ug/L	2.0	93	70	130			
trans-1,3-Dichloropropene		8.80	ug/L	2.0	88	70	130			
Ethylbenzene		10.2	ug/L	2.0	102	70	130			
2-Hexanone		84.0	ug/L	40	84	70	130			
Iodomethane		9.44	ug/L	2.0	94	70	130			
Methyl ethyl ketone		82.4	ug/L	40	82	70	130			
Methyl isobutyl ketone		83.2	ug/L	40	83	70	130			
Methylene chloride		10.6	ug/L	2.0	106	70	130			
Styrene		9.44	ug/L	2.0	94	70	130			
1,1,1,2-Tetrachloroethane		9.36	ug/L	2.0	94	70	130			
1,1,2,2-Tetrachloroethane		9.44	ug/L	2.0	94	70	130			
Tetrachloroethene		10.5	ug/L	2.0	100	70	130			
Toluene		9.68	ug/L	2.0	97	70	130			
1,1,1-Trichloroethane		10.3	ug/L	2.0	103	70	130			
1,1,2-Trichloroethane		9.44	ug/L	2.0	94	70	130			
Trichloroethene		10.1	ug/L	2.0	101	70	130			
Trichlorofluoromethane		9.28	ug/L	2.0	93	70	130			
1,2,3-Trichloropropane		9.84	ug/L	2.0	98	70	130			
Vinyl acetate		8.48	ug/L	2.0	85	70	130			
Vinyl chloride		8.40	ug/L	2.0	84	70	130			
m+p-Xylenes		21.0	ug/L	2.0	105	70	130			
o-Xylene		9.92	ug/L	2.0	99	70	130			
Surr: 1,2-Dichloroethane-d4				2.0	93	70	130			
Surr: Dibromofluoromethane				2.0	79	70	130			
Surr: p-Bromofluorobenzene				2.0	102	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



ENERGY LABORATORIES, INC. * 3161 E Lyndale (59604) * PO Box 5688 * Helena, MT 59601
Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City of Helena Landfill

Report Date: 06/15/09
Work Order: H09050361

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R54029
Sample ID: H09050361-001AMS 53 Sample Matrix Spike										Run: 1SATURN_090529B 05/29/09 15:34
Surr: Toluene-d8				2.0	104	70	130			
Sample ID: H09050361-001AMSD 53 Sample Matrix Spike Duplicate										Run: 1SATURN_090529B 05/29/09 16:04
Acetone		85.6	ug/L	40	83	70	130	8.8	20	
Acrylonitrile		101	ug/L	40	101	70	130	8.3	20	
Benzene		9.84	ug/L	2.0	98	70	130	5.9	20	
Bromochloromethane		10.2	ug/L	2.0	102	70	130	8.1	20	
Bromodichloromethane		9.44	ug/L	2.0	94	70	130	3.4	20	
Bromoform		10.2	ug/L	2.0	97	70	130	7.3	20	
Bromomethane		9.60	ug/L	2.0	96	70	130	5.1	20	
Carbon disulfide		9.28	ug/L	2.0	93	70	130	0	20	
Carbon tetrachloride		9.60	ug/L	2.0	96	70	130	5.1	20	
Chlorobenzene		11.2	ug/L	2.0	112	70	130	13	20	
Chlorodibromomethane		10.0	ug/L	2.0	100	70	130	16	20	
Chloroethane		8.32	ug/L	2.0	83	70	130	2.9	20	
Chloroform		10.0	ug/L	2.0	97	70	130	6.6	20	
Chloromethane		7.48	ug/L	2.0	75	70	130	0.4	20	
1,2-Dibromo-3-chloropropane		9.04	ug/L	2.0	90	70	130	6.4	20	
1,2-Dibromoethane		10.1	ug/L	2.0	101	70	130	23	20	R
Dibromomethane		10.2	ug/L	2.0	102	70	130	4	20	
1,2-Dichlorobenzene		10.2	ug/L	2.0	102	70	130	7.3	20	
1,4-Dichlorobenzene		10.3	ug/L	2.0	103	70	130	0.8	20	
trans-1,4-Dichloro-2-butene		10.2	ug/L	2.0	102	70	130	5.4	20	
Dichlorodifluoromethane		7.16	ug/L	2.0	72	70	130	1.7	20	
1,1-Dichloroethane		10.2	ug/L	2.0	102	70	130	0.8	20	
1,2-Dichloroethane		9.28	ug/L	2.0	93	70	130	10	20	
1,1-Dichloroethene		10.9	ug/L	2.0	109	70	130	0.7	20	
cis-1,2-Dichloroethene		10.1	ug/L	2.0	101	70	130	5.7	20	
trans-1,2-Dichloroethene		10.6	ug/L	2.0	106	70	130	0	20	
1,2-Dichloropropane		9.76	ug/L	2.0	98	70	130	0.8	20	
cis-1,3-Dichloropropene		10.3	ug/L	2.0	103	70	130	11	20	
trans-1,3-Dichloropropene		10.6	ug/L	2.0	106	70	130	19	20	
Ethylbenzene		11.0	ug/L	2.0	110	70	130	6.8	20	
2-Hexanone		103	ug/L	40	103	70	130	21	20	R
Iodomethane		9.28	ug/L	2.0	93	70	130	1.7	20	
Methyl ethyl ketone		90.4	ug/L	40	90	70	130	9.3	20	
Methyl isobutyl ketone		96.8	ug/L	40	97	70	130	15	20	
Methylene chloride		10.4	ug/L	2.0	104	70	130	2.3	20	
Styrene		9.92	ug/L	2.0	99	70	130	5	20	
1,1,1,2-Tetrachloroethane		10.6	ug/L	2.0	106	70	130	12	20	
1,1,2,2-Tetrachloroethane		10.1	ug/L	2.0	101	70	130	6.6	20	
Tetrachloroethene		11.4	ug/L	2.0	109	70	130	8.1	20	
Toluene		10.1	ug/L	2.0	101	70	130	4	20	
1,1,1-Trichloroethane		10.1	ug/L	2.0	101	70	130	2.4	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

R - RPD exceeds advisory limit.



ENERGY LABORATORIES, INC. * 3161 E Lyndale (59604) * PO Box 5688 * Helena, MT 59601
Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City of Helena Landfill

Report Date: 06/15/09
Work Order: H09050361

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R54029
Sample ID: H09050361-001AMSD 53 Sample Matrix Spike Duplicate										Run: 1SATURN_090529B 05/29/09 16:04
1,1,2-Trichloroethane		11.4	ug/L	2.0	114	70	130	19	20	
Trichloroethene		10.4	ug/L	2.0	104	70	130	3.1	20	
Trichlorofluoromethane		9.76	ug/L	2.0	98	70	130	5	20	
1,2,3-Trichloropropane		10.6	ug/L	2.0	106	70	130	7.1	20	
Vinyl acetate		9.28	ug/L	2.0	93	70	130	9	20	
Vinyl chloride		8.80	ug/L	2.0	88	70	130	4.7	20	
m+p-Xylenes		21.7	ug/L	2.0	108	70	130	3.4	20	
o-Xylene		10.2	ug/L	2.0	102	70	130	2.4	20	
Surr: 1,2-Dichloroethane-d4				2.0	100	70	130	0	20	
Surr: Dibromofluoromethane				2.0	79	70	130	0	20	
Surr: p-Bromofluorobenzene				2.0	100	70	130	0	20	
Surr: Toluene-d8				2.0	98	70	130	0	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Energy Laboratories Inc

Workorder Receipt Checklist



H09050361

Hydrometrics Inc

Login completed by: Roxanne L. Tubbs

Date and Time Received: 5/28/2009 3:00 PM

Reviewed by: Elizabeth Ulrich

Received by: rlt

Reviewed Date: 6/2/2009 3:55:00 PM

Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature:	13.0°C		
Water - VOA vials have zero headspace?	Yes ☒	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☒

Contact and Corrective Action Comments:

None

PLEASE PRINT- Provide as much information as possible.

Company Name: Hydrometrics, Inc.		Project Name, PWS, Permit, Etc. City of Helena Landfill -1273		Sample Origin State: MT		EPA/State Compliance: Yes ☐ No ☐	
Report Mail Address: 3020 Bozeman Ave		Contact Name: Jodi Bingham		Phone/Fax: 443-4150x172		Email: jbingham@hydrometrics.com	
Invoice Address:		Invoice Contact & Phone:		Purchase Order:		Sampler: (Please Print) Jodi Bingham	
Special Report/Formats – ELI must be notified prior to sample submittal for the following: ☐ DW ☐ GSA ☐ POTWW/WWTP ☐ State: _____ ☐ Other: _____		☐ A2LA ☐ EDD/EDT (Electronic Data) Format: _____ ☐ LEVEL IV ☐ NELAC		ANALYSIS REQUESTED		Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)		Collection Date	Collection Time	MATRIX		Shipped by: Handel Cooler ID(s):	
1 CHHL-0905-100		5/28/09	13:50	W	X	Receipt Temp 13.0 °C	
2 CHHL-0905-101		1	14:00	W	X	On Ice: Yes ☐ No ☒	
3						Custody Seal Y ☒ N ☐	
4						Bottles/ Coolers B ☐ C ☐	
5						Intact Y ☒ N ☐	
6						Signature Match Y ☒ N ☐	
7						LABORATORY USE ONLY	
8							
9							
10							
Custody Record MUST be Signed		Relinquished by (print): Jodi Bingham		Date/Time: 5/28/09 15:00		Signature: Jodi Bingham	
Sample Disposal:		Return to Client:		Lab Disposal:		Received by (print): Roxanne Burns	
						Date/Time: 5-28-09 15:00	
						Signature: Roxanne Burns	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.

This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.



ENERGY LABORATORIES, INC. * 3161 E Lyndale (59604) * PO Box 5688 * Helena, MT 59601
Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

ANALYTICAL SUMMARY REPORT

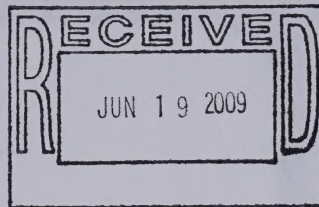
June 15, 2009

Jodi Bingham

Hydrometrics Inc

3020 Bozeman Ave

Helena, MT 59601



Workorder No.: H09050361

Project Name: 1273 City of Helena Landfill

Energy Laboratories Inc received the following 2 samples for Hydrometrics Inc on 5/28/2009 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H09050361-001	CHHL-0905-100	05/28/09 13:50	05/28/09	Aqueous	8260-Volatile Organic Comp, 40 CFR Part 258 App I
H09050361-002	CHHL-0905-101	05/28/09 14:00	05/28/09	Aqueous	Same As Above

BRANCH LABORATORY LOCATIONS

eli-b - Energy Laboratories, Inc. - Billings, MT, EPA # MT00005
eli-c - Energy Laboratories, Inc. - Casper, WY, EPA# WY00002
eli-g - Energy Laboratories, Inc. - Gillette, WY, EPA# WY00006
eli-h - Energy Laboratories, Inc. - Helena, MT, EPA# MT00945
eli-r - Energy Laboratories, Inc. - Rapid City, SD, EPA# SD00012
eli-t - Energy Laboratories, Inc. - College Station, TX, EPA# TX01520

SUBCONTRACTING ANALYSIS

Subcontracting of sample analyses to an outside laboratory may be required. If so, ENERGY LABORATORIES, INC. will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories are indicated within the Laboratory Analytical Report.

SAMPLE TEMPERATURE COMPLIANCE: 4°C (±2°C)

Temperature of samples received may not be considered properly preserved by accepted standards. Samples that are hand delivered immediately after collection shall be considered acceptable if there is evidence that the chilling process has begun.

ELI appreciates the opportunity to provide you with this analytical service. For additional information, including certifications, and analytical services visit our web page www.energylab.com.

Report Approved By: _____

SiteLocationDateTimeOperatorAnalysis

Pond

CHAL -
0905-
100

5/28/09

13:50

2/40/UF/HCH

Sprinkler

CHAL -
0905-
101

5/28/09

14:00

Weather

Breezy, clear, sunny 80°F

GWES
ReadingsHrFlowTotalizer

HL-99-3

287.1

34.2

25886.5
340953

HL-99-2

287.9

22.9

407574
406115

HL-99-1

287.7

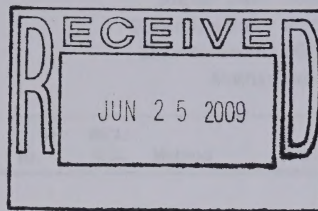
7.25

399054
126703

ANALYTICAL SUMMARY REPORT

June 22, 2009

Richard Lane
Hydrometrics Inc-Helena
3020 Bozeman Ave
Helena, MT 59601-



Workorder No.: H09060203

Project Name: 1273 City of Helena Landfill

Energy Laboratories Inc received the following 1 sample for Hydrometrics Inc-Helena on 6/12/2009 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H09060203-001	CHHL-0906-100	06/11/09 13:30	06/12/09	Aqueous	8260-Volatile Organic Comp, 40 CFR Part 258 App I

BRANCH LABORATORY LOCATIONS

eli-b - Energy Laboratories, Inc. - Billings, MT, EPA # MT00005
eli-c - Energy Laboratories, Inc. - Casper, WY, EPA# WY00002
eli-g - Energy Laboratories, Inc. - Gillette, WY, EPA# WY00006
eli-h - Energy Laboratories, Inc. - Helena, MT, EPA# MT00945
eli-r - Energy Laboratories, Inc. - Rapid City, SD, EPA# SD00012
eli-t - Energy Laboratories, Inc. - College Station, TX, EPA# TX01520

SUBCONTRACTING ANALYSIS

Subcontracting of sample analyses to an outside laboratory may be required. If so, ENERGY LABORATORIES, INC. will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories are indicated within the Laboratory Analytical Report.

SAMPLE TEMPERATURE COMPLIANCE: 4°C (±2°C)

Temperature of samples received may not be considered properly preserved by accepted standards. Samples that are hand delivered immediately after collection shall be considered acceptable if there is evidence that the chilling process has begun.

ELI appreciates the opportunity to provide you with this analytical service. For additional information, including certifications, and analytical services visit our web page www.energylab.com.

Report Approved By: *Richard Lane*

LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc-Helena
Project: 1273 City of Helena Landfill
Lab ID: H09060203-001
Client Sample ID: CHHL-0906-100

Report Date: 06/22/09
Collection Date: 06/11/09 13:30
Date Received: 06/12/09
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Acetone	4.2	ug/L	J	20		SW8260B	06/18/09 16:25 / abb
Acrylonitrile	ND	ug/L		20		SW8260B	06/18/09 16:25 / abb
Benzene	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
Bromochloromethane	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
Bromodichloromethane	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
Bromoform	0.18	ug/L	J	0.50		SW8260B	06/18/09 16:25 / abb
Bromomethane	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
Carbon disulfide	ND	ug/L		1.0		SW8260B	06/18/09 16:25 / abb
Carbon tetrachloride	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
Chlorobenzene	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
Chlorodibromomethane	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
Chloroethane	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
Chloroform	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
Chloromethane	ND	ug/L		1.0		SW8260B	06/18/09 16:25 / abb
1,2-Dibromo-3-chloropropane	ND	ug/L		1.0		SW8260B	06/18/09 16:25 / abb
1,2-Dibromoethane	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
Dibromomethane	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
1,2-Dichlorobenzene	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
1,4-Dichlorobenzene	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
trans-1,4-Dichloro-2-butene	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
Dichlorodifluoromethane	ND	ug/L		1.0		SW8260B	06/18/09 16:25 / abb
1,1-Dichloroethane	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
1,2-Dichloroethane	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
1,1-Dichloroethene	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
cis-1,2-Dichloroethene	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
trans-1,2-Dichloroethene	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
1,2-Dichloropropane	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
cis-1,3-Dichloropropene	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
trans-1,3-Dichloropropene	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
Ethylbenzene	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
2-Hexanone	ND	ug/L		20		SW8260B	06/18/09 16:25 / abb
Iodomethane	ND	ug/L		1.0		SW8260B	06/18/09 16:25 / abb
Methyl ethyl ketone	ND	ug/L		20		SW8260B	06/18/09 16:25 / abb
Methyl isobutyl ketone	ND	ug/L		20		SW8260B	06/18/09 16:25 / abb
Methylene chloride	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
Styrene	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
1,1,1,2-Tetrachloroethane	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
1,1,2,2-Tetrachloroethane	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
Tetrachloroethene	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
Toluene	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
1,1,1-Trichloroethane	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
1,1,2-Trichloroethane	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb
Trichloroethene	ND	ug/L		0.50		SW8260B	06/18/09 16:25 / abb

Report RL - Analyte reporting limit.

MCL - Maximum contaminant level.

Definitions: QCL - Quality control limit.

ND - Not detected at the reporting limit.

J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc-Helena
Project: 1273 City of Helena Landfill
Lab ID: H09060203-001
Client Sample ID: CHHL-0906-100

Report Date: 06/22/09
Collection Date: 06/11/09 13:30
DateReceived: 06/12/09
Matrix: Aqueous

[illegible]

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: Hydrometrics Inc-Helena
Project: 1273 City of Helena Landfill

Report Date: 06/22/09
Work Order: H09060203

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B							Analytical Run: 1SATURN_090618B			
Sample ID: CCV061809A	53 Continuing Calibration Verification Standard									06/18/09 09:34
Acetone		45.6	ug/L	20	91	70	130			
Acrylonitrile		52.4	ug/L	20	105	70	130			
Benzene		4.64	ug/L	1.0	93	70	130			
Bromochloromethane		4.84	ug/L	1.0	97	70	130			
Bromodichloromethane		5.40	ug/L	1.0	108	70	130			
Bromoform		5.04	ug/L	1.0	101	70	130			
Bromomethane		4.52	ug/L	1.0	90	70	130			
Carbon disulfide		5.16	ug/L	1.0	103	70	130			
Carbon tetrachloride		4.52	ug/L	1.0	90	70	130			
Chlorobenzene		5.40	ug/L	1.0	108	70	130			
Chlorodibromomethane		5.64	ug/L	1.0	113	70	130			
Chloroethane		4.80	ug/L	1.0	96	70	130			
Chloroform		4.80	ug/L	1.0	96	80	120			
Chloromethane		5.20	ug/L	1.0	104	70	130			
1,2-Dibromo-3-chloropropane		5.16	ug/L	1.0	103	70	130			
1,2-Dibromoethane		5.12	ug/L	1.0	102	70	130			
Dibromomethane		5.24	ug/L	1.0	105	70	130			
1,2-Dichlorobenzene		5.84	ug/L	1.0	117	70	130			
1,4-Dichlorobenzene		5.92	ug/L	1.0	118	70	130			
trans-1,4-Dichloro-2-butene		5.64	ug/L	1.0	113	70	130			
Dichlorodifluoromethane		5.44	ug/L	1.0	109	70	130			
1,1-Dichloroethane		4.68	ug/L	1.0	94	70	130			
1,2-Dichloroethane		4.32	ug/L	1.0	86	70	130			
1,1-Dichloroethene		4.44	ug/L	1.0	89	80	120			
cis-1,2-Dichloroethene		4.48	ug/L	1.0	90	70	130			
trans-1,2-Dichloroethene		4.64	ug/L	1.0	93	70	130			
1,2-Dichloropropane		5.28	ug/L	1.0	106	80	120			
cis-1,3-Dichloropropene		5.80	ug/L	1.0	116	70	130			
trans-1,3-Dichloropropene		5.92	ug/L	1.0	118	70	130			
Ethylbenzene		5.88	ug/L	1.0	118	80	120			
2-Hexanone		49.2	ug/L	20	98	70	130			
Iodomethane		5.32	ug/L	1.0	106	70	130			
Methyl ethyl ketone		47.6	ug/L	20	95	70	130			
Methyl isobutyl ketone		50.4	ug/L	20	101	70	130			
Methylene chloride		4.36	ug/L	1.0	87	70	130			
Styrene		4.96	ug/L	1.0	99	70	130			
1,1,1,2-Tetrachloroethane		5.84	ug/L	1.0	117	70	130			
1,1,2,2-Tetrachloroethane		5.16	ug/L	1.0	103	70	130			
Tetrachloroethene		6.16	ug/L	1.0	123	70	130			
Toluene		5.32	ug/L	1.0	106	80	120			
1,1,1-Trichloroethane		4.80	ug/L	1.0	96	70	130			
1,1,2-Trichloroethane		5.52	ug/L	1.0	110	70	130			
Trichloroethene		5.36	ug/L	1.0	107	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: Hydrometrics Inc-Helena
 Project: 1273 City of Helena Landfill

Report Date: 06/22/09
 Work Order: H09060203

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B		Analytical Run: 1SATURN_090618B								
Sample ID: CCV061809A		53 Continuing Calibration Verification Standard							06/18/09 09:34	
Trichlorofluoromethane		5.04	ug/L	1.0	101	70	130			
1,2,3-Trichloropropane		5.48	ug/L	1.0	110	70	130			
Vinyl acetate		4.80	ug/L	1.0	96	70	130			
Vinyl chloride		4.80	ug/L	1.0	96	80	120			
m+p-Xylenes		11.6	ug/L	1.0	116	70	130			
o-Xylene		5.60	ug/L	1.0	112	70	130			
Surr: 1,2-Dichloroethane-d4				1.0	96	70	130			
Surr: Dibromofluoromethane				1.0	90	70	130			
Surr: p-Bromofluorobenzene				1.0	112	70	130			
Surr: Toluene-d8				1.0	113	70	130			
Method: SW8260B		Batch: R54352								
Sample ID: LCS061809A		53 Laboratory Control Sample							Run: 1SATURN_090618B	
		06/18/09 10:25								
Acetone		48.8	ug/L	20	98	70	130			
Acrylonitrile		52.8	ug/L	20	106	70	130			
Benzene		4.88	ug/L	1.0	98	70	130			
Bromochloromethane		5.24	ug/L	1.0	105	70	130			
Bromodichloromethane		5.68	ug/L	1.0	114	70	130			
Bromoform		5.00	ug/L	1.0	100	70	130			
Bromomethane		3.94	ug/L	1.0	79	70	130			
Carbon disulfide		5.48	ug/L	1.0	110	70	130			
Carbon tetrachloride		4.96	ug/L	1.0	99	70	130			
Chlorobenzene		6.20	ug/L	1.0	124	70	130			
Chlorodibromomethane		5.40	ug/L	1.0	108	70	130			
Chloroethane		4.40	ug/L	1.0	88	70	130			
Chloroform		4.96	ug/L	1.0	99	70	130			
Chloromethane		4.40	ug/L	1.0	88	70	130			
1,2-Dibromo-3-chloropropane		5.36	ug/L	1.0	107	70	130			
1,2-Dibromoethane		5.08	ug/L	1.0	102	70	130			
Dibromomethane		5.60	ug/L	1.0	112	70	130			
1,2-Dichlorobenzene		6.00	ug/L	1.0	120	70	130			
1,4-Dichlorobenzene		6.00	ug/L	1.0	120	70	130			
trans-1,4-Dichloro-2-butene		5.36	ug/L	1.0	107	70	130			
Dichlorodifluoromethane		3.69	ug/L	1.0	74	70	130			
1,1-Dichloroethane		5.00	ug/L	1.0	100	70	130			
1,2-Dichloroethane		4.52	ug/L	1.0	90	70	130			
1,1-Dichloroethene		5.64	ug/L	1.0	113	70	130			
cis-1,2-Dichloroethene		4.80	ug/L	1.0	96	70	130			
trans-1,2-Dichloroethene		5.32	ug/L	1.0	106	70	130			
1,2-Dichloropropane		5.68	ug/L	1.0	114	70	130			
cis-1,3-Dichloropropene		6.08	ug/L	1.0	122	70	130			
trans-1,3-Dichloropropene		5.92	ug/L	1.0	118	70	130			
Ethylbenzene		6.32	ug/L	1.0	126	70	130			
2-Hexanone		51.2	ug/L	20	102	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: Hydrometrics Inc-Helena
 Project: 1273 City of Helena Landfill

Report Date: 06/22/09
 Work Order: H09060203

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R54352
Sample ID: LCS061809A	53	Laboratory Control Sample				Run: 1SATURN_090618B			06/18/09 10:25	
Iodomethane		5.12	ug/L	1.0	102	70	130			
Methyl ethyl ketone		51.6	ug/L	20	103	70	130			
Methyl isobutyl ketone		51.2	ug/L	20	102	70	130			
Methylene chloride		4.96	ug/L	1.0	99	70	130			
Styrene		5.44	ug/L	1.0	109	70	130			
1,1,1,2-Tetrachloroethane		6.44	ug/L	1.0	129	70	130			
1,1,2,2-Tetrachloroethane		5.64	ug/L	1.0	113	70	130			
Tetrachloroethene		6.16	ug/L	1.0	123	70	130			
Toluene		5.60	ug/L	1.0	112	70	130			
1,1,1-Trichloroethane		5.36	ug/L	1.0	107	70	130			
1,1,2-Trichloroethane		5.80	ug/L	1.0	116	70	130			
Trichloroethene		5.88	ug/L	1.0	118	70	130			
Trichlorofluoromethane		4.88	ug/L	1.0	98	70	130			
1,2,3-Trichloropropane		5.88	ug/L	1.0	118	70	130			
Vinyl acetate		4.44	ug/L	1.0	89	70	130			
Vinyl chloride		4.20	ug/L	1.0	84	70	130			
m+p-Xylenes		11.7	ug/L	1.0	117	70	130			
o-Xylene		5.60	ug/L	1.0	112	70	130			
Surr: 1,2-Dichloroethane-d4				1.0	98	70	130			
Surr: Dibromofluoromethane				1.0	88	70	130			
Surr: p-Bromofluorobenzene				1.0	118	70	130			
Surr: Toluene-d8				1.0	110	70	130			
Sample ID: MB061809A	53	Method Blank				Run: 1SATURN_090618B			06/18/09 11:45	
Acetone		ND	ug/L	20						
Acrylonitrile		ND	ug/L	20						
Benzene		ND	ug/L	1.0						
Bromochloromethane		ND	ug/L	1.0						
Bromodichloromethane		ND	ug/L	1.0						
Bromoform		ND	ug/L	1.0						
Bromomethane		ND	ug/L	1.0						
Carbon disulfide		ND	ug/L	1.0						
Carbon tetrachloride		ND	ug/L	1.0						
Chlorobenzene		ND	ug/L	1.0						
Chlorodibromomethane		ND	ug/L	1.0						
Chloroethane		ND	ug/L	1.0						
Chloroform		ND	ug/L	1.0						
Chloromethane		ND	ug/L	1.0						
1,2-Dibromo-3-chloropropane		ND	ug/L	1.0						
1,2-Dibromoethane		ND	ug/L	1.0						
Dibromomethane		ND	ug/L	1.0						
1,2-Dichlorobenzene		ND	ug/L	1.0						
1,4-Dichlorobenzene		ND	ug/L	1.0						
trans-1,4-Dichloro-2-butene		ND	ug/L	1.0						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: Hydrometrics Inc-Helena
Project: 1273 City of Helena Landfill

Report Date: 06/22/09
Work Order: H09060203

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R54352
Sample ID: MB061809A	<u>53</u>	Method Blank					Run: 1SATURN_090618B			06/18/09 11:45
Dichlorodifluoromethane		ND	ug/L	1.0						
1,1-Dichloroethane		ND	ug/L	1.0						
1,2-Dichloroethane		ND	ug/L	1.0						
1,1-Dichloroethene		ND	ug/L	1.0						
cis-1,2-Dichloroethene		ND	ug/L	1.0						
trans-1,2-Dichloroethene		ND	ug/L	1.0						
1,2-Dichloropropane		ND	ug/L	1.0						
cis-1,3-Dichloropropene		ND	ug/L	1.0						
trans-1,3-Dichloropropene		ND	ug/L	1.0						
Ethylbenzene		ND	ug/L	1.0						
2-Hexanone		ND	ug/L	20						
Iodomethane		ND	ug/L	1.0						
Methyl ethyl ketone		ND	ug/L	20						
Methyl isobutyl ketone		ND	ug/L	20						
Methylene chloride		ND	ug/L	1.0						
Styrene		ND	ug/L	1.0						
1,1,1,2-Tetrachloroethane		ND	ug/L	1.0						
1,1,2,2-Tetrachloroethane		ND	ug/L	1.0						
Tetrachloroethene		ND	ug/L	1.0						
Toluene		ND	ug/L	1.0						
1,1,1-Trichloroethane		ND	ug/L	1.0						
1,1,2-Trichloroethane		ND	ug/L	1.0						
Trichloroethene		ND	ug/L	1.0						
Trichlorofluoromethane		ND	ug/L	1.0						
1,2,3-Trichloropropane		ND	ug/L	1.0						
Vinyl acetate		ND	ug/L	1.0						
Vinyl chloride		ND	ug/L	1.0						
m+p-Xylenes		ND	ug/L	1.0						
o-Xylene		ND	ug/L	1.0						
Surr: 1,2-Dichloroethane-d4				1.0	105	70	130			
Surr: Dibromofluoromethane				1.0	92	70	130			
Surr: p-Bromofluorobenzene				1.0	119	70	130			
Surr: Toluene-d8				1.0	105	70	130			
Sample ID: H09060203-001AMS	<u>53</u>	Sample Matrix Spike					Run: 1SATURN_090618B			06/18/09 21:50
Acetone		93.6	ug/L	40	89	70	130			
Acrylonitrile		107	ug/L	40	107	70	130			
Benzene		10.6	ug/L	2.0	106	70	130			
Bromochloromethane		10.5	ug/L	2.0	105	70	130			
Bromodichloromethane		11.2	ug/L	2.0	112	70	130			
Bromoform		9.76	ug/L	2.0	96	70	130			
Bromomethane		9.04	ug/L	2.0	90	70	130			
Carbon disulfide		9.92	ug/L	2.0	99	70	130			
Carbon tetrachloride		9.44	ug/L	2.0	94	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: Hydrometrics Inc-Helena
Project: 1273 City of Helena Landfill

Report Date: 06/22/09
Work Order: H09060203

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Batch: R54352	
Sample ID: H09060203-001AMS	53	Sample Matrix Spike			Run: 1SATURN_090618B				06/18/09 21:50	
Chlorobenzene		11.5	ug/L	2.0	115	70	130			
Chlorodibromomethane		11.3	ug/L	2.0	113	70	130			
Chloroethane		8.96	ug/L	2.0	90	70	130			
Chloroform		10.2	ug/L	2.0	102	70	130			
Chloromethane		8.32	ug/L	2.0	83	70	130			
1,2-Dibromo-3-chloropropane		10.2	ug/L	2.0	102	70	130			
1,2-Dibromoethane		9.92	ug/L	2.0	99	70	130			
Dibromomethane		11.0	ug/L	2.0	110	70	130			
1,2-Dichlorobenzene		10.8	ug/L	2.0	108	70	130			
1,4-Dichlorobenzene		11.5	ug/L	2.0	115	70	130			
trans-1,4-Dichloro-2-butene		8.88	ug/L	2.0	89	70	130			
Dichlorodifluoromethane		6.95	ug/L	2.0	70	70	130			
1,1-Dichloroethane		9.92	ug/L	2.0	99	70	130			
1,2-Dichloroethane		9.52	ug/L	2.0	95	70	130			
1,1-Dichloroethene		10.6	ug/L	2.0	106	70	130			
cis-1,2-Dichloroethene		9.52	ug/L	2.0	95	70	130			
trans-1,2-Dichloroethene		10.9	ug/L	2.0	109	70	130			
1,2-Dichloropropane		11.7	ug/L	2.0	117	70	130			
cis-1,3-Dichloropropene		12.0	ug/L	2.0	120	70	130			
trans-1,3-Dichloropropene		11.1	ug/L	2.0	111	70	130			
Ethylbenzene		11.8	ug/L	2.0	118	70	130			
2-Hexanone		94.4	ug/L	40	94	70	130			
Iodomethane		9.52	ug/L	2.0	95	70	130			
Methyl ethyl ketone		105	ug/L	40	105	70	130			
Methyl isobutyl ketone		110	ug/L	40	110	70	130			
Methylene chloride		9.68	ug/L	2.0	97	70	130			
Styrene		11.5	ug/L	2.0	115	70	130			
1,1,1,2-Tetrachloroethane		11.4	ug/L	2.0	114	70	130			
1,1,2,2-Tetrachloroethane		10.4	ug/L	2.0	104	70	130			
Tetrachloroethene		12.1	ug/L	2.0	121	70	130			
Toluene		10.9	ug/L	2.0	109	70	130			
1,1,1-Trichloroethane		10.6	ug/L	2.0	106	70	130			
1,1,2-Trichloroethane		11.4	ug/L	2.0	114	70	130			
Trichloroethene		11.8	ug/L	2.0	118	70	130			
Trichlorofluoromethane		9.20	ug/L	2.0	92	70	130			
1,2,3-Trichloropropane		9.76	ug/L	2.0	98	70	130			
Vinyl acetate		4.94	ug/L	2.0	49	70	130			S
Vinyl chloride		8.40	ug/L	2.0	84	70	130			
m+p-Xylenes		22.6	ug/L	2.0	113	70	130			
o-Xylene		11.2	ug/L	2.0	112	70	130			
Surr: 1,2-Dichloroethane-d4				2.0	100	70	130			
Surr: Dibromofluoromethane				2.0	91	70	130			
Surr: p-Bromofluorobenzene				2.0	116	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Client: Hydrometrics Inc-Helena
 Project: 1273 City of Helena Landfill

Report Date: 06/22/09
 Work Order: H09060203

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R54352
Sample ID: H09060203-001AMS 53 Sample Matrix Spike										Run: 1SATURN_090618B 06/18/09 21:50
Surr: Toluene-d8				2.0	119	70	130			
Sample ID: H09060203-001AMSD 53 Sample Matrix Spike Duplicate										Run: 1SATURN_090618B 06/18/09 22:20
Acetone		91.2	ug/L	40	87	70	130	2.6	20	
Acrylonitrile		100	ug/L	40	100	70	130	6.9	20	
Benzene		10.6	ug/L	2.0	106	70	130	0	20	
Bromochloromethane		10.2	ug/L	2.0	102	70	130	3.1	20	
Bromodichloromethane		11.5	ug/L	2.0	115	70	130	2.8	20	
Bromoform		11.1	ug/L	2.0	109	70	130	13	20	
Bromomethane		9.60	ug/L	2.0	96	70	130	6	20	
Carbon disulfide		10.0	ug/L	2.0	100	70	130	0.8	20	
Carbon tetrachloride		9.76	ug/L	2.0	98	70	130	3.3	20	
Chlorobenzene		12.6	ug/L	2.0	126	70	130	8.6	20	
Chlorodibromomethane		11.6	ug/L	2.0	116	70	130	2.8	20	
Chloroethane		8.56	ug/L	2.0	86	70	130	4.6	20	
Chloroform		9.76	ug/L	2.0	98	70	130	4	20	
Chloromethane		8.80	ug/L	2.0	88	70	130	5.6	20	
1,2-Dibromo-3-chloropropane		10.9	ug/L	2.0	109	70	130	6.8	20	
1,2-Dibromoethane		10.2	ug/L	2.0	102	70	130	3.2	20	
Dibromomethane		11.4	ug/L	2.0	114	70	130	3.6	20	
1,2-Dichlorobenzene		12.2	ug/L	2.0	122	70	130	13	20	
1,4-Dichlorobenzene		12.1	ug/L	2.0	121	70	130	4.7	20	
trans-1,4-Dichloro-2-butene		9.20	ug/L	2.0	92	70	130	3.5	20	
Dichlorodifluoromethane		6.98	ug/L	2.0	70	70	130	0.5	20	
1,1-Dichloroethane		9.28	ug/L	2.0	93	70	130	6.7	20	
1,2-Dichloroethane		9.44	ug/L	2.0	94	70	130	0.8	20	
1,1-Dichloroethene		11.2	ug/L	2.0	112	70	130	5.9	20	
cis-1,2-Dichloroethene		9.52	ug/L	2.0	95	70	130	0	20	
trans-1,2-Dichloroethene		10.2	ug/L	2.0	102	70	130	6.8	20	
1,2-Dichloropropane		11.3	ug/L	2.0	113	70	130	3.5	20	
cis-1,3-Dichloropropene		12.2	ug/L	2.0	122	70	130	2	20	
trans-1,3-Dichloropropene		12.2	ug/L	2.0	122	70	130	8.9	20	
Ethylbenzene		13.0	ug/L	2.0	130	70	130	10	20	
2-Hexanone		111	ug/L	40	111	70	130	16	20	
Iodomethane		10.1	ug/L	2.0	101	70	130	5.7	20	
Methyl ethyl ketone		101	ug/L	40	101	70	130	3.9	20	
Methyl isobutyl ketone		107	ug/L	40	107	70	130	2.2	20	
Methylene chloride		9.12	ug/L	2.0	91	70	130	6	20	
Styrene		12.1	ug/L	2.0	121	70	130	4.7	20	
1,1,1,2-Tetrachloroethane		12.3	ug/L	2.0	123	70	130	8.1	20	
1,1,2,2-Tetrachloroethane		11.9	ug/L	2.0	119	70	130	14	20	
Tetrachloroethene		13.0	ug/L	2.0	130	70	130	7	20	
Toluene		11.6	ug/L	2.0	116	70	130	6.4	20	
1,1,1-Trichloroethane		10.4	ug/L	2.0	104	70	130	1.5	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: Hydrometrics Inc-Helena
Project: 1273 City of Helena Landfill

Report Date: 06/22/09
Work Order: H09060203

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R54352
Sample ID: H09060203-001AMSD	53	Sample Matrix Spike Duplicate			Run: 1SATURN_090618B				06/18/09 22:20	
1,1,2-Trichloroethane		12.4	ug/L	2.0	124	70	130	8.1	20	
Trichloroethene		12.6	ug/L	2.0	126	70	130	5.9	20	
Trichlorofluoromethane		9.44	ug/L	2.0	94	70	130	2.6	20	
1,2,3-Trichloropropane		10.9	ug/L	2.0	109	70	130	11	20	
Vinyl acetate		5.92	ug/L	2.0	59	70	130	18	20	S
Vinyl chloride		8.32	ug/L	2.0	83	70	130	1	20	
m+p-Xylenes		24.1	ug/L	2.0	120	70	130	6.2	20	
o-Xylene		11.8	ug/L	2.0	118	70	130	4.9	20	
Surr: 1,2-Dichloroethane-d4				2.0	93	70	130	0	20	
Surr: Dibromofluoromethane				2.0	86	70	130	0	20	
Surr: p-Bromofluorobenzene				2.0	123	70	130	0	20	
Surr: Toluene-d8				2.0	117	70	130	0	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



3020 Bozeman Avenue • Helena, Montana 59601 • (406) 443-4150

[illegible]

Energy Laboratories Inc

Workorder Receipt Checklist



H09060203

Hydrometrics Inc

Login completed by: Roxanne L. Tubbs

Date and Time Received: 6/12/2009 8:50 AM

Reviewed by: Elizabeth Ulrich

Received by: wjj

Reviewed Date: 6/12/2009 10:44:00 AM

Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature:	-0.9°C		
Water - VOA vials have zero headspace?	Yes ☒	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☒

Contact and Corrective Action Comments:

None

Sprinkler	CHHL- 0906- 100	6/11/04	1330	2/40/4F/HCL/LOC
-----------	-----------------------	---------	------	-----------------

<u>Weather</u>	Calm, Clear, Sunny	80°F
----------------	--------------------	------

<u>GUES</u> <u>Readings</u>	<u>Hr</u>	<u>Flow</u>	<u>Totalizer</u>
HL-44-1	621.0	7.83	564386 292036
HL-44-2	622.1	—	407611 406150
HL-44-3	621.8	32.8	681171 996240

ANALYTICAL SUMMARY REPORT

August 06, 2009

Jodi Bingham
Hydrometrics Inc
3020 Bozeman Ave
Helena, MT 59601

Workorder No.: H09070366

Project Name: 1273 City Of Helena Landfill

Energy Laboratories Inc received the following 1 sample for Hydrometrics Inc on 7/31/2009 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H09070366-001	CHHL-0907-100	07/31/09 11:00	07/31/09	Aqueous	8260-Volatile Organic Comp, 40 CFR Part 258 App I

BRANCH LABORATORY LOCATIONSeli-b - Energy Laboratories, Inc. - Billings, MT, EPA # MT00005
eli-c - Energy Laboratories, Inc. - Casper, WY, EPA# WY00002
eli-g - Energy Laboratories, Inc. - Gillette, WY, EPA# WY00006
eli-h - Energy Laboratories, Inc. - Helena, MT, EPA# MT00945
eli-r - Energy Laboratories, Inc. - Rapid City, SD, EPA# SD00012
eli-t - Energy Laboratories, Inc. - College Station, TX, EPA# TX01520**SUBCONTRACTING ANALYSIS**

Subcontracting of sample analyses to an outside laboratory may be required. If so, ENERGY LABORATORIES, INC. will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories are indicated within the Laboratory Analytical Report.

SAMPLE TEMPERATURE COMPLIANCE: 4°C (±2°C)

Temperature of samples received may not be considered properly preserved by accepted standards. Samples that are hand delivered immediately after collection shall be considered acceptable if there is evidence that the chilling process has begun.

ELI appreciates the opportunity to provide you with this analytical service. For additional information, including certifications, and analytical services visit our web page www.energylab.com.Report Approved By: J. Anderson

AUG 12 2009

LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc
Project: 1273 City Of Helena Landfill
Lab ID: H09070366-001
Client Sample ID: CHHL-0907-100

Report Date: 08/06/09
Collection Date: 07/31/09 11:00
Date Received: 07/31/09
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Acetone	ND	ug/L		20		SW8260B	08/03/09 16:31 / abb
Acrylonitrile	ND	ug/L		20		SW8260B	08/03/09 16:31 / abb
Benzene	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
Bromochloromethane	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
Bromodichloromethane	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
Bromoform	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
Bromomethane	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
Carbon disulfide	ND	ug/L		1.0		SW8260B	08/03/09 16:31 / abb
Carbon tetrachloride	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
Chlorobenzene	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
Chlorodibromomethane	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
Chloroethane	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
Chloroform	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
Chloromethane	ND	ug/L		1.0		SW8260B	08/03/09 16:31 / abb
1,2-Dibromo-3-chloropropane	ND	ug/L		1.0		SW8260B	08/03/09 16:31 / abb
1,2-Dibromoethane	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
Dibromomethane	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
1,2-Dichlorobenzene	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
1,4-Dichlorobenzene	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
trans-1,4-Dichloro-2-butene	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
Dichlorodifluoromethane	ND	ug/L		1.0		SW8260B	08/03/09 16:31 / abb
1,1-Dichloroethane	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
1,2-Dichloroethane	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
1,1-Dichloroethene	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
cis-1,2-Dichloroethene	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
trans-1,2-Dichloroethene	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
1,2-Dichloropropane	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
cis-1,3-Dichloropropene	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
trans-1,3-Dichloropropene	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
Ethylbenzene	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
2-Hexanone	ND	ug/L		20		SW8260B	08/03/09 16:31 / abb
Iodomethane	ND	ug/L		1.0		SW8260B	08/03/09 16:31 / abb
Methyl ethyl ketone	ND	ug/L		20		SW8260B	08/03/09 16:31 / abb
Methyl isobutyl ketone	ND	ug/L		20		SW8260B	08/03/09 16:31 / abb
Methylene chloride	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
Styrene	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
1,1,1,2-Tetrachloroethane	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
1,1,2,2-Tetrachloroethane	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
Tetrachloroethene	0.22	ug/L	J	0.50		SW8260B	08/03/09 16:31 / abb
Toluene	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
1,1,1-Trichloroethane	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
1,1,2-Trichloroethane	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
Trichloroethene	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb

Report RL - Analyte reporting limit.

Definitions: QCL - Quality control limit.

J - Estimated value. The analyte was present but less than the reporting limit.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc
Project: 1273 City Of Helena Landfill
Lab ID: H09070366-001
Client Sample ID: CHHL-0907-100

Report Date: 08/06/09
Collection Date: 07/31/09 11:00
Date Received: 07/31/09
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Trichlorofluoromethane	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
1,2,3-Trichloropropane	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
Vinyl acetate	ND	ug/L		1.0		SW8260B	08/03/09 16:31 / abb
Vinyl chloride	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
m+p-Xylenes	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
o-Xylene	ND	ug/L		0.50		SW8260B	08/03/09 16:31 / abb
Surr: 1,2-Dichloroethane-d4	106	%REC		70-130		SW8260B	08/03/09 16:31 / abb
Surr: Dibromofluoromethane	109	%REC		70-130		SW8260B	08/03/09 16:31 / abb
Surr: p-Bromofluorobenzene	102	%REC		70-130		SW8260B	08/03/09 16:31 / abb
Surr: Toluene-d8	101	%REC		70-130		SW8260B	08/03/09 16:31 / abb

Report: RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City Of Helena Landfill

Report Date: 08/06/09
Work Order: H09070366

Analyte	Count	Result	Unit's	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Analytical Run: 1SATURN_090803C
Sample ID: CCV080309A										08/03/09 09:47
53 Continuing Calibration Verification Standard										
Acetone		44.4	ug/L	20	89	70	130			
Acrylonitrile		52.0	ug/L	20	104	70	130			
Benzene		4.72	ug/L	1.0	94	70	130			
Bromochloromethane		4.52	ug/L	1.0	90	70	130			
Bromodichloromethane		4.52	ug/L	1.0	90	70	130			
Bromoform		4.56	ug/L	1.0	91	70	130			
Bromomethane		3.86	ug/L	1.0	77	70	130			
Carbon disulfide		5.40	ug/L	1.0	108	70	130			
Carbon tetrachloride		4.84	ug/L	1.0	97	70	130			
Chlorobenzene		5.44	ug/L	1.0	109	70	130			
Chlorodibromomethane		4.72	ug/L	1.0	94	70	130			
Chloroethane		4.32	ug/L	1.0	86	70	130			
Chloroform		4.76	ug/L	1.0	95	80	120			
Chloromethane		4.52	ug/L	1.0	90	70	130			
1,2-Dibromo-3-chloropropane		4.16	ug/L	1.0	83	70	130			
1,2-Dibromoethane		4.60	ug/L	1.0	92	70	130			
Dibromomethane		4.68	ug/L	1.0	94	70	130			
1,2-Dichlorobenzene		5.12	ug/L	1.0	102	70	130			
1,4-Dichlorobenzene		5.28	ug/L	1.0	106	70	130			
trans-1,4-Dichloro-2-butene		4.56	ug/L	1.0	91	70	130			
Dichlorodifluoromethane		5.56	ug/L	1.0	111	70	130			
1,1-Dichloroethane		4.84	ug/L	1.0	97	70	130			
1,2-Dichloroethane		4.20	ug/L	1.0	84	70	130			
1,1-Dichloroethene		4.96	ug/L	1.0	99	80	120			
cis-1,2-Dichloroethene		4.52	ug/L	1.0	90	70	130			
trans-1,2-Dichloroethene		4.80	ug/L	1.0	96	70	130			
1,2-Dichloropropane		5.08	ug/L	1.0	102	80	120			
cis-1,3-Dichloropropene		4.44	ug/L	1.0	89	70	130			
trans-1,3-Dichloropropene		4.80	ug/L	1.0	96	70	130			
Ethylbenzene		5.04	ug/L	1.0	101	80	120			
2-Hexanone		45.2	ug/L	20	90	70	130			
Iodomethane		5.08	ug/L	1.0	102	70	130			
Methyl ethyl ketone		43.6	ug/L	20	87	70	130			
Methyl isobutyl ketone		43.2	ug/L	20	86	70	130			
Methylene chloride		4.40	ug/L	1.0	88	70	130			
Styrene		4.88	ug/L	1.0	98	70	130			
1,1,1,2-Tetrachloroethane		4.72	ug/L	1.0	94	70	130			
1,1,2,2-Tetrachloroethane		4.44	ug/L	1.0	89	70	130			
Tetrachloroethene		5.56	ug/L	1.0	111	70	130			
Toluene		4.84	ug/L	1.0	97	80	120			
1,1,1-Trichloroethane		4.84	ug/L	1.0	97	70	130			
1,1,2-Trichloroethane		5.08	ug/L	1.0	102	70	130			
Trichloroethene		5.28	ug/L	1.0	106	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: Hydrometrics Inc
 Project: 1273 City Of Helena Landfill

Report Date: 08/06/09
 Work Order: H09070366

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Analytical Run: 1SATURN_090803C
Sample ID: CCV080309A										08/03/09 09:47
53 Continuing Calibration Verification Standard										
Trichlorofluoromethane		4.80	ug/L	1.0	96	70	130			
1,2,3-Trichloropropane		3.85	ug/L	1.0	77	70	130			
Vinyl acetate		4.12	ug/L	1.0	82	70	130			
Vinyl chloride		4.52	ug/L	1.0	90	80	120			
m+p-Xylenes		9.04	ug/L	1.0	90	70	130			
o-Xylene		4.52	ug/L	1.0	90	70	130			
Surr: 1,2-Dichloroethane-d4				1.0	92	70	130			
Surr: Dibromofluoromethane				1.0	102	70	130			
Surr: p-Bromofluorobenzene				1.0	98	70	130			
Surr: Toluene-d8				1.0	105	70	130			
Method: SW8260B										Batch: R55557
Sample ID: LCS080309A										08/03/09 10:43
53 Laboratory Control Sample										
Run: 1SATURN_090803C										
Acetone		46.8	ug/L	20	94	70	130			
Acrylonitrile		54.0	ug/L	20	108	70	130			
Benzene		5.20	ug/L	1.0	104	70	130			
Bromochloromethane		5.00	ug/L	1.0	100	70	130			
Bromodichloromethane		4.60	ug/L	1.0	92	70	130			
Bromoform		5.28	ug/L	1.0	106	70	130			
Bromomethane		4.20	ug/L	1.0	84	70	130			
Carbon disulfide		5.08	ug/L	1.0	102	70	130			
Carbon tetrachloride		5.08	ug/L	1.0	102	70	130			
Chlorobenzene		5.56	ug/L	1.0	111	70	130			
Chlorodibromomethane		5.00	ug/L	1.0	100	70	130			
Chloroethane		4.52	ug/L	1.0	90	70	130			
Chloroform		5.20	ug/L	1.0	104	70	130			
Chloromethane		4.48	ug/L	1.0	90	70	130			
1,2-Dibromo-3-chloropropane		5.12	ug/L	1.0	102	70	130			
1,2-Dibromoethane		4.32	ug/L	1.0	86	70	130			
Dibromomethane		4.72	ug/L	1.0	94	70	130			
1,2-Dichlorobenzene		5.40	ug/L	1.0	108	70	130			
1,4-Dichlorobenzene		6.04	ug/L	1.0	121	70	130			
trans-1,4-Dichloro-2-butene		6.04	ug/L	1.0	121	70	130			
Dichlorodifluoromethane		4.88	ug/L	1.0	98	70	130			
1,1-Dichloroethane		4.80	ug/L	1.0	96	70	130			
1,2-Dichloroethane		5.08	ug/L	1.0	102	70	130			
1,1-Dichloroethene		4.12	ug/L	1.0	82	70	130			
cis-1,2-Dichloroethene		4.80	ug/L	1.0	96	70	130			
trans-1,2-Dichloroethene		4.60	ug/L	1.0	92	70	130			
1,2-Dichloropropane		4.72	ug/L	1.0	94	70	130			
cis-1,3-Dichloropropene		4.88	ug/L	1.0	98	70	130			
trans-1,3-Dichloropropene		4.88	ug/L	1.0	98	70	130			
Ethylbenzene		5.16	ug/L	1.0	103	70	130			
2-Hexanone		42.4	ug/L	20	85	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City Of Helena Landfill

Report Date: 08/06/09
Work Order: H09070366

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R55557
Sample ID: LCS080309A	53	Laboratory Control Sample			Run: 1SATURN_090803C					08/03/09 10:43
Iodomethane		5.28	ug/L	1.0	106	70	130			
Methyl ethyl ketone		46.0	ug/L	20	92	70	130			
Methyl isobutyl ketone		42.4	ug/L	20	85	70	130			
Methylene chloride		4.52	ug/L	1.0	90	70	130			
Styrene		4.84	ug/L	1.0	97	70	130			
1,1,1,2-Tetrachloroethane		5.08	ug/L	1.0	102	70	130			
1,1,2,2-Tetrachloroethane		5.28	ug/L	1.0	106	70	130			
Tetrachloroethene		4.92	ug/L	1.0	98	70	130			
Toluene		4.56	ug/L	1.0	91	70	130			
1,1,1-Trichloroethane		4.88	ug/L	1.0	98	70	130			
1,1,2-Trichloroethane		5.08	ug/L	1.0	102	70	130			
Trichloroethene		4.76	ug/L	1.0	95	70	130			
Trichlorofluoromethane		5.04	ug/L	1.0	101	70	130			
1,2,3-Trichloropropane		5.36	ug/L	1.0	107	70	130			
Vinyl acetate		4.72	ug/L	1.0	94	70	130			
Vinyl chloride		4.52	ug/L	1.0	90	70	130			
m+p-Xylenes		9.20	ug/L	1.0	92	70	130			
o-Xylene		4.56	ug/L	1.0	91	70	130			
Surr: 1,2-Dichloroethane-d4				1.0	107	70	130			
Surr: Dibromofluoromethane				1.0	113	70	130			
Surr: p-Bromofluorobenzene				1.0	106	70	130			
Surr: Toluene-d8				1.0	94	70	130			
Sample ID: H09070334-001EMS	53	Sample Matrix Spike			Run: 1SATURN_090803C					08/03/09 11:12
Acetone		99.2	ug/L	40	99	70	130			
Acrylonitrile		114	ug/L	40	114	70	130			
Benzene		10.7	ug/L	2.0	107	70	130			
Bromochloromethane		11.0	ug/L	2.0	110	70	130			
Bromodichloromethane		9.28	ug/L	2.0	93	70	130			
Bromoform		10.6	ug/L	2.0	106	70	130			
Bromomethane		7.66	ug/L	2.0	77	70	130			
Carbon disulfide		10.4	ug/L	2.0	104	70	130			
Carbon tetrachloride		9.36	ug/L	2.0	94	70	130			
Chlorobenzene		10.8	ug/L	2.0	108	70	130			
Chlorodibromomethane		11.0	ug/L	2.0	110	70	130			
Chloroethane		8.80	ug/L	2.0	88	70	130			
Chloroform		11.1	ug/L	2.0	111	70	130			
Chloromethane		8.08	ug/L	2.0	81	70	130			
1,2-Dibromo-3-chloropropane		10.2	ug/L	2.0	102	70	130			
1,2-Dibromoethane		10.2	ug/L	2.0	102	70	130			
Dibromomethane		9.60	ug/L	2.0	96	70	130			
1,2-Dichlorobenzene		11.0	ug/L	2.0	110	70	130			
1,4-Dichlorobenzene		11.3	ug/L	2.0	113	70	130			
trans-1,4-Dichloro-2-butene		10.9	ug/L	2.0	109	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City Of Helena Landfill

Report Date: 08/06/09
Work Order: H09070366

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R55557
Sample ID: H09070334-001EMS 53 Sample Matrix Spike										08/03/09 11:12
Run: 1SATURN_090803C										
Dichlorodifluoromethane		9.44	ug/L	2.0	94	70	130			
1,1-Dichloroethane		10.4	ug/L	2.0	104	70	130			
1,2-Dichloroethane		10.6	ug/L	2.0	106	70	130			
1,1-Dichloroethene		8.64	ug/L	2.0	86	70	130			
cis-1,2-Dichloroethene		9.84	ug/L	2.0	98	70	130			
trans-1,2-Dichloroethene		9.20	ug/L	2.0	92	70	130			
1,2-Dichloropropane		10.7	ug/L	2.0	107	70	130			
cis-1,3-Dichloropropene		9.44	ug/L	2.0	94	70	130			
trans-1,3-Dichloropropene		9.60	ug/L	2.0	96	70	130			
Ethylbenzene		9.60	ug/L	2.0	96	70	130			
2-Hexanone		92.8	ug/L	40	93	70	130			
Iodomethane		10.2	ug/L	2.0	102	70	130			
Methyl ethyl ketone		98.4	ug/L	40	98	70	130			
Methyl isobutyl ketone		85.6	ug/L	40	86	70	130			
Methylene chloride		9.84	ug/L	2.0	98	70	130			
Styrene		9.60	ug/L	2.0	96	70	130			
1,1,1,2-Tetrachloroethane		10.6	ug/L	2.0	106	70	130			
1,1,2,2-Tetrachloroethane		11.0	ug/L	2.0	110	70	130			
Tetrachloroethene		9.68	ug/L	2.0	97	70	130			
Toluene		9.12	ug/L	2.0	91	70	130			
1,1,1-Trichloroethane		9.36	ug/L	2.0	94	70	130			
1,1,2-Trichloroethane		10.9	ug/L	2.0	109	70	130			
Trichloroethene		9.84	ug/L	2.0	98	70	130			
Trichlorofluoromethane		9.92	ug/L	2.0	99	70	130			
1,2,3-Trichloropropane		10.9	ug/L	2.0	109	70	130			
Vinyl acetate		11.4	ug/L	2.0	114	70	130			
Vinyl chloride		8.24	ug/L	2.0	82	70	130			
m+p-Xylenes		16.5	ug/L	2.0	82	70	130			
o-Xylene		8.96	ug/L	2.0	90	70	130			
Surr: 1,2-Dichloroethane-d4				2.0	110	70	130			
Surr: Dibromofluoromethane				2.0	105	70	130			
Surr: p-Bromofluorobenzene				2.0	103	70	130			
Surr: Toluene-d8				2.0	92	70	130			
Sample ID: H09070334-001EMSD 53 Sample Matrix Spike Duplicate										08/03/09 11:41
Run: 1SATURN_090803C										
Acetone		103	ug/L	40	103	70	130	4	20	
Acrylonitrile		118	ug/L	40	118	70	130	3.5	20	
Benzene		10.3	ug/L	2.0	103	70	130	3.8	20	
Bromochloromethane		12.1	ug/L	2.0	121	70	130	9.7	20	
Bromodichloromethane		8.40	ug/L	2.0	84	70	130	10	20	
Bromoform		10.6	ug/L	2.0	106	70	130	0	20	
Bromomethane		9.60	ug/L	2.0	96	70	130	22	20	R
Carbon disulfide		10.4	ug/L	2.0	104	70	130	0	20	
Carbon tetrachloride		11.0	ug/L	2.0	110	70	130	16	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

R - RPD exceeds advisory limit.

QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City Of Helena Landfill

Report Date: 08/06/09
Work Order: H09070366

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Batch: R55557										
Method: SW8260B				Run: 1SATURN_090803C				08/03/09 11:41		
Sample ID: H09070334-001EMSD	53	Sample Matrix Spike Duplicate								
Chlorobenzene		10.6	ug/L	2.0	106	70	130	1.5		20
Chlorodibromomethane		10.2	ug/L	2.0	102	70	130	7.5		20
Chloroethane		9.60	ug/L	2.0	96	70	130	8.7		20
Chloroform		12.8	ug/L	2.0	128	70	130	14		20
Chloromethane		9.60	ug/L	2.0	96	70	130	17		20
1,2-Dibromo-3-chloropropane		10.2	ug/L	2.0	102	70	130	0.8		20
1,2-Dibromoethane		9.20	ug/L	2.0	92	70	130	9.9		20
Dibromomethane		9.04	ug/L	2.0	90	70	130	6		20
1,2-Dichlorobenzene		11.3	ug/L	2.0	113	70	130	2.2		20
1,4-Dichlorobenzene		11.5	ug/L	2.0	115	70	130	2.1		20
trans-1,4-Dichloro-2-butene		11.2	ug/L	2.0	112	70	130	2.9		20
Dichlorodifluoromethane		11.1	ug/L	2.0	111	70	130	16		20
1,1-Dichloroethane		11.4	ug/L	2.0	114	70	130	8.8		20
1,2-Dichloroethane		10.6	ug/L	2.0	106	70	130	0.8		20
1,1-Dichloroethene		9.04	ug/L	2.0	90	70	130	4.5		20
cis-1,2-Dichloroethene		11.2	ug/L	2.0	112	70	130	13		20
trans-1,2-Dichloroethene		9.92	ug/L	2.0	99	70	130	7.5		20
1,2-Dichloropropane		9.36	ug/L	2.0	94	70	130	14		20
cis-1,3-Dichloropropene		9.52	ug/L	2.0	95	70	130	0.8		20
trans-1,3-Dichloropropene		10.0	ug/L	2.0	100	70	130	4.1		20
Ethylbenzene		9.60	ug/L	2.0	96	70	130	0		20
2-Hexanone		91.2	ug/L	40	91	70	130	1.7		20
Iodomethane		10.2	ug/L	2.0	102	70	130	0		20
Methyl ethyl ketone		108	ug/L	40	108	70	130	9.3		20
Methyl isobutyl ketone		84.0	ug/L	40	84	70	130	1.9		20
Methylene chloride		10.1	ug/L	2.0	101	70	130	2.4		20
Styrene		9.60	ug/L	2.0	96	70	130	0		20
1,1,1,2-Tetrachloroethane		10.2	ug/L	2.0	102	70	130	3.1		20
1,1,2,2-Tetrachloroethane		10.6	ug/L	2.0	106	70	130	3		20
Tetrachloroethene		9.92	ug/L	2.0	99	70	130	2.4		20
Toluene		8.96	ug/L	2.0	90	70	130	1.8		20
1,1,1-Trichloroethane		11.4	ug/L	2.0	114	70	130	19		20
1,1,2-Trichloroethane		10.1	ug/L	2.0	101	70	130	7.6		20
Trichloroethene		8.72	ug/L	2.0	87	70	130	12		20
Trichlorofluoromethane		11.0	ug/L	2.0	110	70	130	10		20
1,2,3-Trichloropropane		11.4	ug/L	2.0	114	70	130	4.3		20
Vinyl acetate		11.1	ug/L	2.0	111	70	130	2.8		20
Vinyl chloride		9.60	ug/L	2.0	96	70	130	15		20
m+p-Xylenes		16.8	ug/L	2.0	84	70	130	1.9		20
o-Xylene		8.56	ug/L	2.0	86	70	130	4.6		20
Surr: 1,2-Dichloroethane-d4				2.0	114	70	130	0		20
Surr: Dibromofluoromethane				2.0	116	70	130	0		20
Surr: p-Bromofluorobenzene				2.0	104	70	130	0		20

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City Of Helena Landfill

Report Date: 08/06/09
Work Order: H09070366

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R55557
Sample ID: H09070334-001EMSD 53 Sample Matrix Spike Duplicate										Run: 1SATURN_090803C 08/03/09 11:41
Surr: Toluene-d8				2.0	94	70	130	0	20	
Sample ID: MB080309A 53 Method Blank										Run: 1SATURN_090803C 08/03/09 13:04
Acetone		ND	ug/L	20						
Acrylonitrile		ND	ug/L	20						
Benzene		ND	ug/L	1.0						
Bromochloromethane		ND	ug/L	1.0						
Bromodichloromethane		ND	ug/L	1.0						
Bromoform		ND	ug/L	1.0						
Bromomethane		ND	ug/L	1.0						
Carbon disulfide		ND	ug/L	1.0						
Carbon tetrachloride		ND	ug/L	1.0						
Chlorobenzene		ND	ug/L	1.0						
Chlorodibromomethane		ND	ug/L	1.0						
Chloroethane		ND	ug/L	1.0						
Chloroform		ND	ug/L	1.0						
Chloromethane		ND	ug/L	1.0						
1,2-Dibromo-3-chloropropane		ND	ug/L	1.0						
1,2-Dibromoethane		ND	ug/L	1.0						
Dibromomethane		ND	ug/L	1.0						
1,2-Dichlorobenzene		ND	ug/L	1.0						
1,4-Dichlorobenzene		ND	ug/L	1.0						
trans-1,4-Dichloro-2-butene		ND	ug/L	1.0						
Dichlorodifluoromethane		ND	ug/L	1.0						
1,1-Dichloroethane		ND	ug/L	1.0						
1,2-Dichloroethane		ND	ug/L	1.0						
1,1-Dichloroethene		ND	ug/L	1.0						
cis-1,2-Dichloroethene		ND	ug/L	1.0						
trans-1,2-Dichloroethene		ND	ug/L	1.0						
1,2-Dichloropropane		ND	ug/L	1.0						
cis-1,3-Dichloropropene		ND	ug/L	1.0						
trans-1,3-Dichloropropene		ND	ug/L	1.0						
Ethylbenzene		ND	ug/L	1.0						
2-Hexanone		ND	ug/L	20						
Iodomethane		ND	ug/L	1.0						
Methyl ethyl ketone		ND	ug/L	20						
Methyl isobutyl ketone		ND	ug/L	20						
Methylene chloride		ND	ug/L	1.0						
Styrene		ND	ug/L	1.0						
1,1,1,2-Tetrachloroethane		ND	ug/L	1.0						
1,1,2,2-Tetrachloroethane		ND	ug/L	1.0						
Tetrachloroethene		ND	ug/L	1.0						
Toluene		ND	ug/L	1.0						
1,1,1-Trichloroethane		ND	ug/L	1.0						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City Of Helena Landfill

Report Date: 08/06/09
Work Order: H09070366

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R55557
Sample ID: MB080309A										08/03/09 13:04
53 Method Blank										Run: 1SATURN_090803C
1,1,2-Trichloroethane		ND	ug/L	1.0						
Trichloroethene		ND	ug/L	1.0						
Trichlorofluoromethane		ND	ug/L	1.0						
1,2,3-Trichloropropane		ND	ug/L	1.0						
Vinyl acetate		ND	ug/L	1.0						
Vinyl chloride		ND	ug/L	1.0						
m+p-Xylenes		ND	ug/L	1.0						
o-Xylene		ND	ug/L	1.0						
Surr: 1,2-Dichloroethane-d4				1.0	104	70	130			
Surr: Dibromofluoromethane				1.0	108	70	130			
Surr: p-Bromofluorobenzene				1.0	96	70	130			
Surr: Toluene-d8				1.0	94	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Energy Laboratories Inc

Workorder Receipt Checklist



H09070366

Hydrometrics Inc

Login completed by: Wanda Johnson

Reviewed by: Amanda Blackburn

Reviewed Date: 7/31/2009 3:39:00 PM

Date and Time Received: 7/31/2009 3:00 PM

Received by: abb

Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature:	7.6°C		
Water - VOA vials have zero headspace?	Yes ☒	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☒

Contact and Corrective Action Comments:

None



2727 Airport Road • Helena, Montana 59601 • (406) 443-4150

PROJ. NO.		PROJECT NAME		NO. OF CON- TAINERS																	REMARKS
DATE		TIME			COMP	GRAB	SAMPLE NUMBER		Commons UF / RAW	Nutrients -UF / H ₂ SO ₄	Diss. Metal F / HNO ₃	CN UF / NaOH	Total Metals UF / HNO ₃	Total Recoverable Metals UF / HNO ₃	BTEX	TPH	VOC / UF / HC				
7/31/09		11:00		X		CHHL-0907-100		2									X	H09090326			
				Method 8260 Long List DL = 0.0005 mg/L																	
Relinquished (Signature)				Date/Time	Received by: (Signature)				Lab				P.O. #				Shipped via: Bus, Fed Ex, UPS Other _____ Air Bill # _____				
Relinquished (Signature)				Date/Time	Received by: (Signature)				Remarks												
Relinquished (Signature)				Date/Time	Received for Laboratory by: (Signature)				Date/Time				Enclosed:								
													☐ Parameter sheet w/detection limits ☐ QA/QC standard mixing instructions ☐ Cover letter ☐ Other _____								
													Split Samples: ☐ Accepted ☐ Declined				Signature				

<u>Site</u>	<u>Code #</u>	<u>Date</u>	<u>Time</u>	<u>Bottles</u>
Sprinkler	CHHL- 0907- 100	7/21/09	11:00	2/40/09/HCI/ VOC

Weather

Breezy, cloudy, 65°F

<u>GLUES</u>	<u>Readings</u>	<u>HR</u>	<u>Flow</u>	<u>Total</u>
HL-99-3	1711.8	#	40.3	560 245412 560453
1 HL-99-2	1454.0	218	5771607	} And 575298
HL-99-1	1384.6	—		

Am not working well - stuck, fixed

HL-99-2 was shut down for
app. 1 week for repairs
HL-99-1 pump is not working



ENERGY LABORATORIES, INC. * 3161 E Lyndale (59604) * PO Box 5688 * Helena, MT 59601
Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

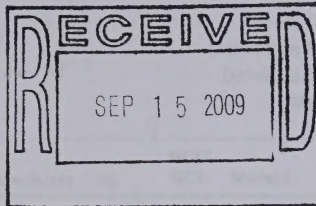
ANALYTICAL SUMMARY REPORT

September 14, 2009

Hydrometrics Inc
3020 Bozeman Ave
Helena, MT 59601

Workorder No.: H09080354

Project Name: 1273 City Of Helena Landfill



Energy Laboratories Inc received the following 1 sample for Hydrometrics Inc on 8/28/2009 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H09080354-001	CHHL-0907-100 0908 <i>el</i>	08/28/09 10:30	08/28/09	Aqueous	8260-Volatile Organic Comp, 40 CFR Part 258 App I

BRANCH LABORATORY LOCATIONS

eli-b - Energy Laboratories, Inc. - Billings, MT, EPA # MT00005
eli-c - Energy Laboratories, Inc. - Casper, WY, EPA# WY00002
eli-g - Energy Laboratories, Inc. - Gillette, WY, EPA# WY00006
eli-h - Energy Laboratories, Inc. - Helena, MT, EPA# MT00945
eli-i - Energy Laboratories, Inc. - Rapid City, SD, EPA# SD00012
eli-t - Energy Laboratories, Inc. - College Station, TX, EPA# TX01520

SUBCONTRACTING ANALYSIS

Subcontracting of sample analyses to an outside laboratory may be required. If so, ENERGY LABORATORIES, INC. will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories are indicated within the Laboratory Analytical Report.

SAMPLE TEMPERATURE COMPLIANCE: 4°C (±2°C)

Temperature of samples received may not be considered properly preserved by accepted standards. Samples that are hand delivered immediately after collection shall be considered acceptable if there is evidence that the chilling process has begun.

ELI appreciates the opportunity to provide you with this analytical service. For additional information, including certifications, and analytical services visit our web page www.energylab.com.

Report Approved By: *frankie elson*



LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc
Project: 1273 City Of Helena Landfill
Lab ID: H09080354-001
Client Sample ID: CHHL-0007-100
0908 EV

Report Date: 09/14/09
Collection Date: 08/28/09 10:30
Date Received: 08/28/09
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Acetone	ND	ug/L		20		SW8260B	08/31/09 18:40 / abb
Acrylonitrile	ND	ug/L		20		SW8260B	08/31/09 18:40 / abb
Benzene	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
Bromochloromethane	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
Bromodichloromethane	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
Bromoform	0.24	ug/L	J	0.50		SW8260B	08/31/09 18:40 / abb
Bromomethane	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
Carbon disulfide	ND	ug/L		1.0		SW8260B	08/31/09 18:40 / abb
Carbon tetrachloride	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
Chlorobenzene	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
Chlorodibromomethane	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
Chloroethane	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
Chloroform	0.50	ug/L	J	0.50		SW8260B	08/31/09 18:40 / abb
Chloromethane	ND	ug/L		1.0		SW8260B	08/31/09 18:40 / abb
1,2-Dibromo-3-chloropropane	ND	ug/L		1.0		SW8260B	08/31/09 18:40 / abb
1,2-Dibromoethane	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
Dibromomethane	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
1,2-Dichlorobenzene	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
1,4-Dichlorobenzene	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
trans-1,4-Dichloro-2-butene	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
Dichlorodifluoromethane	ND	ug/L		1.0		SW8260B	08/31/09 18:40 / abb
1,1-Dichloroethane	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
1,2-Dichloroethane	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
1,1-Dichloroethene	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
cis-1,2-Dichloroethene	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
trans-1,2-Dichloroethene	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
1,2-Dichloropropane	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
cis-1,3-Dichloropropene	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
trans-1,3-Dichloropropene	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
Ethylbenzene	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
2-Hexanone	ND	ug/L		20		SW8260B	08/31/09 18:40 / abb
Iodomethane	ND	ug/L		1.0		SW8260B	08/31/09 18:40 / abb
Methyl ethyl ketone	ND	ug/L		20		SW8260B	08/31/09 18:40 / abb
Methyl isobutyl ketone	ND	ug/L		20		SW8260B	08/31/09 18:40 / abb
Methylene chloride	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
Styrene	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
1,1,1,2-Tetrachloroethane	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
1,1,2,2-Tetrachloroethane	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
Tetrachloroethene	0.36	ug/L	J	0.50		SW8260B	08/31/09 18:40 / abb
Toluene	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
1,1,1-Trichloroethane	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
1,1,2-Trichloroethane	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb
Trichloroethene	ND	ug/L		0.50		SW8260B	08/31/09 18:40 / abb

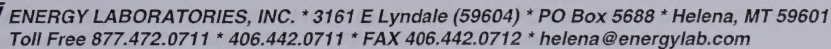
Report RL - Analyte reporting limit.

MCL - Maximum contaminant level.

Definitions: QCL - Quality control limit.

ND - Not detected at the reporting limit.

J - Estimated value. The analyte was present but less than the reporting limit.



Matrix: Aqueous

Client Sample ID: CHHL-0907-100
0908 EV

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



QA/QC Summary Report

Client: Hydrometrics Inc

Report Date: 09/14/09

Project: 1273 City Of Helena Landfill

Work Order: H09080354

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B		Analytical Run: 1SATURN_090831B								
Sample ID: CCV083109A		52 Continuing Calibration Verification Standard								08/31/09 13:36
Acetone		57.2	ug/L	20	114	70	130			
Acrylonitrile		62.4	ug/L	20	125	70	130			
Benzene		4.28	ug/L	1.0	86	70	130			
Bromochloromethane		5.68	ug/L	1.0	114	70	130			
Bromodichloromethane		4.56	ug/L	1.0	91	70	130			
Bromoform		5.08	ug/L	1.0	102	70	130			
Bromomethane		5.04	ug/L	1.0	101	70	130			
Carbon disulfide		5.60	ug/L	1.0	112	70	130			
Carbon tetrachloride		5.04	ug/L	1.0	101	70	130			
Chlorobenzene		5.52	ug/L	1.0	110	70	130			
Chlorodibromomethane		5.08	ug/L	1.0	102	70	130			
Chloroethane		5.80	ug/L	1.0	116	70	130			
Chloroform		5.48	ug/L	1.0	110	80	120			
Chloromethane		5.08	ug/L	1.0	102	70	130			
1,2-Dibromo-3-chloropropane		5.12	ug/L	1.0	102	70	130			
1,2-Dibromoethane		4.56	ug/L	1.0	91	70	130			
Dibromomethane		4.92	ug/L	1.0	98	70	130			
1,2-Dichlorobenzene		5.44	ug/L	1.0	109	70	130			
1,4-Dichlorobenzene		5.28	ug/L	1.0	106	70	130			
Dichlorodifluoromethane		5.76	ug/L	1.0	115	70	130			
1,1-Dichloroethane		5.44	ug/L	1.0	109	70	130			
1,2-Dichloroethane		5.40	ug/L	1.0	108	70	130			
1,1-Dichloroethene		5.44	ug/L	1.0	109	80	120			
cis-1,2-Dichloroethene		5.08	ug/L	1.0	102	70	130			
trans-1,2-Dichloroethene		5.28	ug/L	1.0	106	70	130			
1,2-Dichloropropane		5.28	ug/L	1.0	106	80	120			
cis-1,3-Dichloropropene		4.60	ug/L	1.0	92	70	130			
trans-1,3-Dichloropropene		4.96	ug/L	1.0	99	70	130			
Ethylbenzene		5.04	ug/L	1.0	101	80	120			
2-Hexanone		50.8	ug/L	20	102	70	130			
Iodomethane		5.08	ug/L	1.0	102	70	130			
Methyl ethyl ketone		60.0	ug/L	20	120	70	130			
Methyl isobutyl ketone		50.8	ug/L	20	102	70	130			
Methylene chloride		5.28	ug/L	1.0	106	70	130			
Styrene		5.36	ug/L	1.0	107	70	130			
1,1,1,2-Tetrachloroethane		5.16	ug/L	1.0	103	70	130			
1,1,2,2-Tetrachloroethane		5.12	ug/L	1.0	102	70	130			
Tetrachloroethene		4.92	ug/L	1.0	98	70	130			
Toluene		4.68	ug/L	1.0	94	80	120			
1,1,1-Trichloroethane		5.36	ug/L	1.0	107	70	130			
1,1,2-Trichloroethane		5.00	ug/L	1.0	100	70	130			
Trichloroethene		4.68	ug/L	1.0	94	70	130			
Trichlorofluoromethane		4.88	ug/L	1.0	98	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City Of Helena Landfill

Report Date: 09/14/09
Work Order: H09080354

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B								Analytical Run: 1SATURN_090831B		
Sample ID: CCV083109A								52 Continuing Calibration Verification Standard		
								08/31/09 13:23		
1,2,3-Trichloropropane		5.24	ug/L	1.0	105	70	130			
Vinyl acetate		5.32	ug/L	1.0	106	70	130			
Vinyl chloride		4.84	ug/L	1.0	97	80	120			
m+p-Xylenes		9.00	ug/L	1.0	90	70	130			
o-Xylene		4.64	ug/L	1.0	93	70	130			
Surr: 1,2-Dichloroethane-d4				1.0	111	70	130			
Surr: Dibromofluoromethane				1.0	111	70	130			
Surr: p-Bromofluorobenzene				1.0	104	70	130			
Surr: Toluene-d8				1.0	94	70	130			

Method: SW8260B								Batch: R56290		
Sample ID: LCS083109A								Run: 1SATURN_090831B		
								52 Laboratory Control Sample		
								08/31/09 14:23		
Acetone		58.4	ug/L	20	117	70	130			
Acrylonitrile		62.8	ug/L	20	126	70	130			
Benzene		3.86	ug/L	1.0	77	70	130			
Bromochloromethane		5.36	ug/L	1.0	107	70	130			
Bromodichloromethane		5.08	ug/L	1.0	102	70	130			
Bromoform		6.16	ug/L	1.0	123	70	130			
Bromomethane		4.60	ug/L	1.0	92	70	130			
Carbon disulfide		4.64	ug/L	1.0	93	70	130			
Carbon tetrachloride		4.48	ug/L	1.0	90	70	130			
Chlorobenzene		5.60	ug/L	1.0	112	70	130			
Chlorodibromomethane		6.00	ug/L	1.0	120	70	130			
Chloroethane		5.04	ug/L	1.0	101	70	130			
Chloroform		5.00	ug/L	1.0	100	70	130			
Chloromethane		4.56	ug/L	1.0	91	70	130			
1,2-Dibromo-3-chloropropane		5.28	ug/L	1.0	106	70	130			
1,2-Dibromoethane		5.64	ug/L	1.0	113	70	130			
Dibromomethane		5.92	ug/L	1.0	118	70	130			
1,2-Dichlorobenzene		5.80	ug/L	1.0	116	70	130			
1,4-Dichlorobenzene		5.84	ug/L	1.0	117	70	130			
Dichlorodifluoromethane		4.60	ug/L	1.0	92	70	130			
1,1-Dichloroethane		4.60	ug/L	1.0	92	70	130			
1,2-Dichloroethane		5.76	ug/L	1.0	115	70	130			
1,1-Dichloroethene		3.80	ug/L	1.0	76	70	130			
cis-1,2-Dichloroethene		4.76	ug/L	1.0	95	70	130			
trans-1,2-Dichloroethene		4.16	ug/L	1.0	83	70	130			
1,2-Dichloropropane		5.04	ug/L	1.0	101	70	130			
cis-1,3-Dichloropropene		5.12	ug/L	1.0	102	70	130			
trans-1,3-Dichloropropene		5.44	ug/L	1.0	109	70	130			
Ethylbenzene		4.96	ug/L	1.0	99	70	130			
2-Hexanone		58.8	ug/L	20	118	70	130			
Iodomethane		4.92	ug/L	1.0	98	70	130			
Methyl ethyl ketone		62.8	ug/L	20	126	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City Of Helena Landfill

Report Date: 09/14/09
Work Order: H09080354

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R56290
Sample ID: LCS083109A	52	Laboratory Control Sample				Run: 1SATURN_090831B				08/31/09 14:23
Methyl isobutyl ketone		55.2	ug/L	20	110	70	130			
Methylene chloride		4.92	ug/L	1.0	98	70	130			
Styrene		5.44	ug/L	1.0	109	70	130			
1,1,1,2-Tetrachloroethane		5.60	ug/L	1.0	112	70	130			
1,1,2,2-Tetrachloroethane		5.92	ug/L	1.0	118	70	130			
Tetrachloroethene		5.24	ug/L	1.0	105	70	130			
Toluene		4.64	ug/L	1.0	93	70	130			
1,1,1-Trichloroethane		4.76	ug/L	1.0	95	70	130			
1,1,2-Trichloroethane		6.44	ug/L	1.0	129	70	130			
Trichloroethene		4.60	ug/L	1.0	92	70	130			
Trichlorofluoromethane		4.92	ug/L	1.0	98	70	130			
1,2,3-Trichloropropane		6.00	ug/L	1.0	120	70	130			
Vinyl acetate		5.76	ug/L	1.0	115	70	130			
Vinyl chloride		4.40	ug/L	1.0	88	70	130			
m+p-Xylenes		9.36	ug/L	1.0	94	70	130			
o-Xylene		4.96	ug/L	1.0	99	70	130			
Surr: 1,2-Dichloroethane-d4				1.0	114	70	130			
Surr: Dibromofluoromethane				1.0	110	70	130			
Surr: p-Bromofluorobenzene				1.0	108	70	130			
Surr: Toluene-d8				1.0	99	70	130			
Sample ID: MB083109A	52	Method Blank				Run: 1SATURN_090831B				08/31/09 15:41
Acetone		ND	ug/L	20						
Acrylonitrile		ND	ug/L	20						
Benzene		ND	ug/L	1.0						
Bromochloromethane		ND	ug/L	1.0						
Bromodichloromethane		ND	ug/L	1.0						
Bromoform		ND	ug/L	1.0						
Bromomethane		ND	ug/L	1.0						
Carbon disulfide		ND	ug/L	1.0						
Carbon tetrachloride		ND	ug/L	1.0						
Chlorobenzene		ND	ug/L	1.0						
Chlorodibromomethane		ND	ug/L	1.0						
Chloroethane		ND	ug/L	1.0						
Chloroform		ND	ug/L	1.0						
Chloromethane		ND	ug/L	1.0						
1,2-Dibromo-3-chloropropane		ND	ug/L	1.0						
1,2-Dibromoethane		ND	ug/L	1.0						
Dibromomethane		ND	ug/L	1.0						
1,2-Dichlorobenzene		ND	ug/L	1.0						
1,4-Dichlorobenzene		ND	ug/L	1.0						
Dichlorodifluoromethane		ND	ug/L	1.0						
1,1-Dichloroethane		ND	ug/L	1.0						
1,2-Dichloroethane		ND	ug/L	1.0						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Client: Hydrometrics Inc

Report Date: 09/14/09

Project: 1273 City Of Helena Landfill

Work Order: H09080354

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R56290
Sample ID: MB083109A	52	Method Blank				Run: 1SATURN_090831B				08/31/09 15:41
1,1-Dichloroethene		ND	ug/L	1.0						
cis-1,2-Dichloroethene		ND	ug/L	1.0						
trans-1,2-Dichloroethene		ND	ug/L	1.0						
1,2-Dichloropropane		ND	ug/L	1.0						
cis-1,3-Dichloropropene		ND	ug/L	1.0						
trans-1,3-Dichloropropene		ND	ug/L	1.0						
Ethylbenzene		ND	ug/L	1.0						
2-Hexanone		ND	ug/L	20						
Iodomethane		ND	ug/L	1.0						
Methyl ethyl ketone		ND	ug/L	20						
Methyl isobutyl ketone		ND	ug/L	20						
Methylene chloride		ND	ug/L	1.0						
Styrene		ND	ug/L	1.0						
1,1,1,2-Tetrachloroethane		ND	ug/L	1.0						
1,1,2,2-Tetrachloroethane		ND	ug/L	1.0						
Tetrachloroethene		ND	ug/L	1.0						
Toluene		ND	ug/L	1.0						
1,1,1-Trichloroethane		ND	ug/L	1.0						
1,1,2-Trichloroethane		ND	ug/L	1.0						
Trichloroethene		ND	ug/L	1.0						
Trichlorofluoromethane		ND	ug/L	1.0						
1,2,3-Trichloropropane		ND	ug/L	1.0						
Vinyl acetate		ND	ug/L	1.0						
Vinyl chloride		ND	ug/L	1.0						
m+p-Xylenes		ND	ug/L	1.0						
o-Xylene		ND	ug/L	1.0						
Surr: 1,2-Dichloroethane-d4				1.0	102	70	130			
Surr: Dibromofluoromethane				1.0	104	70	130			
Surr: p-Bromofluorobenzene				1.0	108	70	130			
Surr: Toluene-d8				1.0	100	70	130			
Sample ID: H09080354-001AMS										09/04/09 10:08
	52	Sample Matrix Spike				Run: 1SATURN_090831B				
Acetone		114	ug/L	40	114	70	130			
Acrylonitrile		118	ug/L	40	118	70	130			
Benzene		9.76	ug/L	2.0	98	70	130			
Bromochloromethane		10.2	ug/L	2.0	102	70	130			
Bromodichloromethane		9.44	ug/L	2.0	94	70	130			
Bromoform		11.5	ug/L	2.0	115	70	130			
Bromomethane		10.1	ug/L	2.0	101	70	130			
Carbon disulfide		8.80	ug/L	2.0	88	70	130			
Carbon tetrachloride		9.04	ug/L	2.0	90	70	130			
Chlorobenzene		10.8	ug/L	2.0	108	70	130			
Chlorodibromomethane		10.6	ug/L	2.0	106	70	130			
Chloroethane		9.20	ug/L	2.0	92	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Client: Hydrometrics Inc

Report Date: 09/14/09

Project: 1273 City Of Helena Landfill

Work Order: H09080354

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R56290
Sample ID: H09080354-001AMS	52	Sample Matrix Spike				Run: 1SATURN_090831B				09/04/09 10:08
Chloroform		9.68	ug/L	2.0	97	70	130			
Chloromethane		8.96	ug/L	2.0	90	70	130			
1,2-Dibromo-3-chloropropane		10.6	ug/L	2.0	106	70	130			
1,2-Dibromoethane		10.6	ug/L	2.0	106	70	130			
Dibromomethane		10.2	ug/L	2.0	102	70	130			
1,2-Dichlorobenzene		10.8	ug/L	2.0	108	70	130			
1,4-Dichlorobenzene		10.5	ug/L	2.0	105	70	130			
Dichlorodifluoromethane		8.88	ug/L	2.0	89	70	130			
1,1-Dichloroethane		8.56	ug/L	2.0	86	70	130			
1,2-Dichloroethane		9.60	ug/L	2.0	96	70	130			
1,1-Dichloroethene		7.21	ug/L	2.0	72	70	130			
cis-1,2-Dichloroethene		8.88	ug/L	2.0	89	70	130			
trans-1,2-Dichloroethene		7.90	ug/L	2.0	79	70	130			
1,2-Dichloropropane		9.12	ug/L	2.0	91	70	130			
cis-1,3-Dichloropropene		9.84	ug/L	2.0	98	70	130			
trans-1,3-Dichloropropene		9.60	ug/L	2.0	96	70	130			
Ethylbenzene		9.92	ug/L	2.0	99	70	130			
2-Hexanone		102	ug/L	40	102	70	130			
Iodomethane		9.28	ug/L	2.0	93	70	130			
Methyl ethyl ketone		108	ug/L	40	108	70	130			
Methyl isobutyl ketone		103	ug/L	40	103	70	130			
Methylene chloride		8.56	ug/L	2.0	86	70	130			
Styrene		9.52	ug/L	2.0	95	70	130			
1,1,1,2-Tetrachloroethane		10.2	ug/L	2.0	102	70	130			
1,1,2,2-Tetrachloroethane		11.1	ug/L	2.0	111	70	130			
Tetrachloroethene		9.28	ug/L	2.0	93	70	130			
Toluene		9.36	ug/L	2.0	94	70	130			
1,1,1-Trichloroethane		8.88	ug/L	2.0	89	70	130			
1,1,2-Trichloroethane		10.8	ug/L	2.0	108	70	130			
Trichloroethene		8.00	ug/L	2.0	80	70	130			
Trichlorofluoromethane		9.60	ug/L	2.0	96	70	130			
1,2,3-Trichloropropane		9.52	ug/L	2.0	95	70	130			
Vinyl acetate		11.4	ug/L	2.0	114	70	130			
Vinyl chloride		8.96	ug/L	2.0	90	70	130			
m+p-Xylenes		18.4	ug/L	2.0	92	70	130			
o-Xylene		9.52	ug/L	2.0	95	70	130			
Surr: 1,2-Dichloroethane-d4				2.0	106	70	130			
Surr: Dibromofluoromethane				2.0	109	70	130			
Surr: p-Bromofluorobenzene				2.0	110	70	130			
Surr: Toluene-d8				2.0	101	70	130			
Sample ID: H09080354-001AMSD	52	Sample Matrix Spike Duplicate				Run: 1SATURN_090831B				09/04/09 10:37
Acetone		127	ug/L	40	127	70	130	11	20	
Acrylonitrile		133	ug/L	40	133	70	130	12	20	S

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Client: Hydrometrics Inc
Project: 1273 City Of Helena Landfill

Report Date: 09/14/09
Work Order: H09080354

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R56290
Sample ID: H09080354-001AMSD 52 Sample Matrix Spike Duplicate										Run: 1SATURN_090831B 09/04/09 10:37
Benzene		11.4	ug/L	2.0	114	70	130	16	20	
Bromochloromethane		11.7	ug/L	2.0	117	70	130	13	20	
Bromodichloromethane		9.52	ug/L	2.0	95	70	130	0.8	20	
Bromoform		12.4	ug/L	2.0	124	70	130	7.4	20	
Bromomethane		10.3	ug/L	2.0	103	70	130	2.4	20	
Carbon disulfide		9.20	ug/L	2.0	92	70	130	4.4	20	
Carbon tetrachloride		9.52	ug/L	2.0	95	70	130	5.2	20	
Chlorobenzene		10.7	ug/L	2.0	107	70	130	0.7	20	
Chlorodibromomethane		10.6	ug/L	2.0	106	70	130	0.8	20	
Chloroethane		10.4	ug/L	2.0	104	70	130	12	20	
Chloroform		11.5	ug/L	2.0	115	70	130	17	20	
Chloromethane		8.64	ug/L	2.0	86	70	130	3.6	20	
1,2-Dibromo-3-chloropropane		10.7	ug/L	2.0	107	70	130	0.7	20	
1,2-Dibromoethane		10.0	ug/L	2.0	100	70	130	5.4	20	
Dibromomethane		10.4	ug/L	2.0	104	70	130	1.6	20	
1,2-Dichlorobenzene		11.0	ug/L	2.0	110	70	130	2.2	20	
1,4-Dichlorobenzene		11.6	ug/L	2.0	116	70	130	10	20	
Dichlorodifluoromethane		8.96	ug/L	2.0	90	70	130	0.9	20	
1,1-Dichloroethane		10.2	ug/L	2.0	102	70	130	17	20	
1,2-Dichloroethane		10.3	ug/L	2.0	103	70	130	7.2	20	
1,1-Dichloroethene		7.54	ug/L	2.0	75	70	130	4.4	20	
cis-1,2-Dichloroethene		10.3	ug/L	2.0	103	70	130	15	20	
trans-1,2-Dichloroethene		8.80	ug/L	2.0	88	70	130	11	20	
1,2-Dichloropropane		9.28	ug/L	2.0	93	70	130	1.7	20	
cis-1,3-Dichloropropene		10.2	ug/L	2.0	102	70	130	3.2	20	
trans-1,3-Dichloropropene		10.8	ug/L	2.0	108	70	130	12	20	
Ethylbenzene		9.44	ug/L	2.0	94	70	130	5	20	
2-Hexanone		103	ug/L	40	103	70	130	0.8	20	
Iodomethane		10.0	ug/L	2.0	100	70	130	7.5	20	
Methyl ethyl ketone		136	ug/L	40	136	70	130	23	20	SR
Methyl isobutyl ketone		106	ug/L	40	106	70	130	3.1	20	
Methylene chloride		9.60	ug/L	2.0	96	70	130	11	20	
Styrene		9.52	ug/L	2.0	95	70	130	0	20	
1,1,1,2-Tetrachloroethane		10.2	ug/L	2.0	102	70	130	0.8	20	
1,1,2,2-Tetrachloroethane		12.2	ug/L	2.0	122	70	130	8.9	20	
Tetrachloroethene		9.60	ug/L	2.0	96	70	130	3.4	20	
Toluene		8.32	ug/L	2.0	83	70	130	12	20	
1,1,1-Trichloroethane		9.84	ug/L	2.0	98	70	130	10	20	
1,1,2-Trichloroethane		11.2	ug/L	2.0	112	70	130	3.6	20	
Trichloroethene		8.32	ug/L	2.0	83	70	130	3.9	20	
Trichlorofluoromethane		10.2	ug/L	2.0	102	70	130	6.5	20	
1,2,3-Trichloropropane		11.0	ug/L	2.0	110	70	130	14	20	
Vinyl acetate		12.2	ug/L	2.0	122	70	130	7.5	20	

Qualifiers:

RL - Analyte reporting limit.
R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.



ENERGY LABORATORIES, INC. * 3161 E Lyndale (59604) * PO Box 5688 * Helena, MT 59601
Toll Free 877.472.0711 * 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

QA/QC Summary Report

Client: Hydrometrics Inc

Report Date: 09/14/09

Project: 1273 City Of Helena Landfill

Work Order: H09080354

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R56290
Sample ID: H09080354-001AMSD	52	Sample Matrix Spike Duplicate				Run: 1SATURN_090831B				09/04/09 10:37
Vinyl chloride		8.56	ug/L	2.0	86	70	130	4.6		20
m+p-Xylenes		16.6	ug/L	2.0	83	70	130	11		20
o-Xylene		9.12	ug/L	2.0	91	70	130	4.3		20
Surr: 1,2-Dichloroethane-d4				2.0	120	70	130			
Surr: Dibromofluoromethane				2.0	115	70	130			
Surr: p-Bromofluorobenzene				2.0	110	70	130			
Surr: Toluene-d8				2.0	89	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Energy Laboratories Inc

Workorder Receipt Checklist



Hydrometrics Inc

H09080354

Login completed by: Michelle R. Talseth

Date and Time Received: 8/28/2009 12:52 PM

Reviewed by: Amanda Blackburn

Received by: rlt

Reviewed Date: 9/14/2009 11:27:00 AM

Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature:	0.4°C		
Water - VOA vials have zero headspace?	Yes ☒	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☒

Contact and Corrective Action Comments:

None



4908035

2727 Airport Road • Helena, Montana 59601 • (406) 443-4150

[illegible]

HFORM-1-5/99

Return results & electronic copy to:
Computer Dept. at address at top of page

Split Samples:
☐ Accepted ☐ Declined _____ Signature



2727 Airport Road • Helena, Montana 59601 • (406) 443-4150

[illegible]

Sprinklers CHHL - 8/28/09 1030

0908

100

Weather

Clear, Calm, 85°

GUES

<u>Site</u>	<u>Hr.</u>	<u>Floor</u>	<u>Total</u>
HL-99-3	2293.0	39.4	647784
			647784 962864
HL-99-2	2036.2	20.5	300501
			299042
HL-99-1	Well is off		
	1384.6	0	880402
			608050

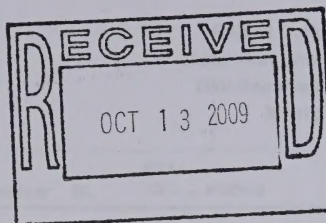


ENERGY LABORATORIES, INC. * 3161 E Lyndale (59604) * PO Box 5688 * Helena, MT 59601
* 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

ANALYTICAL SUMMARY REPORT

October 06, 2009

Richard Lane
Hydrometrics Inc-Helena
3020 Bozeman Ave
Helena, MT 59601-



Workorder No.: H09100013

Project Name: 1273 City Of Helena Landfill

Energy Laboratories Inc received the following 1 sample for Hydrometrics Inc-Helena on 10/1/2009 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H09100013-001	CHHL-0909-100	09/30/09 12:00	10/01/09	Aqueous	8260-Volatile Organic Comp, 40 CFR Part 258 App I

BRANCH LABORATORY LOCATIONS

eli-b - Energy Laboratories, Inc. - Billings, MT, EPA # MT00005
eli-c - Energy Laboratories, Inc. - Casper, WY, EPA# WY00002
eli-g - Energy Laboratories, Inc. - Gillette, WY, EPA# WY00006
eli-h - Energy Laboratories, Inc. - Helena, MT, EPA# MT00945
eli-r - Energy Laboratories, Inc. - Rapid City, SD, EPA# SD00012
eli-t - Energy Laboratories, Inc. - College Station, TX, EPA# TX01520

SUBCONTRACTING ANALYSIS

Subcontracting of sample analyses to an outside laboratory may be required. If so, ENERGY LABORATORIES, INC. will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories are indicated within the Laboratory Analytical Report.

SAMPLE TEMPERATURE COMPLIANCE: 4°C (±2°C)

Temperature of samples received may not be considered properly preserved by accepted standards. Samples that are hand delivered immediately after collection shall be considered acceptable if there is evidence that the chilling process has begun.

EI appreciates the opportunity to provide you with this analytical service. For additional information, including certifications, and analytical services visit our web page www.energylab.com.

Report Approved By: Amanda Blackby



LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc-Helena
Project: 1273 City Of Helena Landfill
Lab ID: H09100013-001
Client Sample ID: CHHL-0909-100

Report Date: 10/06/09
Collection Date: 09/30/09 12:00
Date Received: 10/01/09
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Acetone	ND	ug/L		20		SW8260B	10/02/09 18:05 / abb
Acrylonitrile	ND	ug/L		20		SW8260B	10/02/09 18:05 / abb
Benzene	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
Bromochloromethane	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
Bromodichloromethane	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
Bromoform	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
Bromomethane	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
Carbon disulfide	ND	ug/L		1.0		SW8260B	10/02/09 18:05 / abb
Carbon tetrachloride	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
Chlorobenzene	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
Chlorodibromomethane	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
Chloroethane	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
Chloroform	0.29	ug/L	J	0.50		SW8260B	10/02/09 18:05 / abb
Chloromethane	ND	ug/L		1.0		SW8260B	10/02/09 18:05 / abb
1,2-Dibromo-3-chloropropane	ND	ug/L		1.0		SW8260B	10/02/09 18:05 / abb
1,2-Dibromoethane	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
Dibromomethane	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
1,2-Dichlorobenzene	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
1,4-Dichlorobenzene	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
trans-1,4-Dichloro-2-butene	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
Dichlorodifluoromethane	ND	ug/L		1.0		SW8260B	10/02/09 18:05 / abb
1,1-Dichloroethane	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
1,2-Dichloroethane	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
1,1-Dichloroethene	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
cis-1,2-Dichloroethene	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
trans-1,2-Dichloroethene	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
1,2-Dichloropropane	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
cis-1,3-Dichloropropene	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
trans-1,3-Dichloropropene	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
Ethylbenzene	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
2-Hexanone	ND	ug/L		20		SW8260B	10/02/09 18:05 / abb
Iodomethane	ND	ug/L		1.0		SW8260B	10/02/09 18:05 / abb
Methyl ethyl ketone	ND	ug/L		20		SW8260B	10/02/09 18:05 / abb
Methyl isobutyl ketone	ND	ug/L		20		SW8260B	10/02/09 18:05 / abb
Methylene chloride	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
Styrene	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
1,1,1,2-Tetrachloroethane	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
1,1,2,2-Tetrachloroethane	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
Tetrachloroethene	0.25	ug/L	J	0.50		SW8260B	10/02/09 18:05 / abb
Toluene	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
1,1,1-Trichloroethane	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
1,1,2-Trichloroethane	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
Trichloroethene	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb

Report RL - Analyte reporting limit.

Definitions: QCL - Quality control limit.

J - Estimated value. The analyte was present but less than the reporting limit.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



ENERGY LABORATORIES, INC. * 3161 E Lyndale (59604) * PO Box 5688 * Helena, MT 59601
* 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

LABORATORY ANALYTICAL REPORT

Client: Hydrometrics Inc-Helena
Project: 1273 City Of Helena Landfill
Lab ID: H09100013-001
Client Sample ID: CHHL-0909-100

Report Date: 10/06/09
Collection Date: 09/30/09 12:00
Date Received: 10/01/09
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Trichlorofluoromethane	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
1,2,3-Trichloropropane	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
Vinyl acetate	ND	ug/L		1.0		SW8260B	10/02/09 18:05 / abb
Vinyl chloride	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
m+p-Xylenes	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
o-Xylene	ND	ug/L		0.50		SW8260B	10/02/09 18:05 / abb
Surr: 1,2-Dichloroethane-d4	108	%REC		70-130		SW8260B	10/02/09 18:05 / abb
Surr: Dibromofluoromethane	99.0	%REC		70-130		SW8260B	10/02/09 18:05 / abb
Surr: p-Bromofluorobenzene	102	%REC		70-130		SW8260B	10/02/09 18:05 / abb
Surr: Toluene-d8	102	%REC		70-130		SW8260B	10/02/09 18:05 / abb

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



QA/QC Summary Report

Client: Hydrometrics Inc-Helena
Project: 1273 City Of Helena Landfill

Report Date: 10/06/09
Work Order: H09100013

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B		Analytical Run: 1SATURN_091002B								
Sample ID: CCV100209A		53 Continuing Calibration Verification Standard								10/02/09 09:44
Acetone		48.8	ug/L	20	98	70	130			
Acrylonitrile		58.4	ug/L	20	117	70	130			
Benzene		5.20	ug/L	1.0	104	70	130			
Bromochloromethane		5.28	ug/L	1.0	106	70	130			
Bromodichloromethane		4.92	ug/L	1.0	98	70	130			
Bromoform		5.40	ug/L	1.0	108	70	130			
Bromomethane		5.48	ug/L	1.0	110	70	130			
Carbon disulfide		5.20	ug/L	1.0	104	70	130			
Carbon tetrachloride		5.16	ug/L	1.0	103	70	130			
Chlorobenzene		5.52	ug/L	1.0	110	70	130			
Chlorodibromomethane		5.68	ug/L	1.0	114	70	130			
Chloroethane		5.60	ug/L	1.0	112	70	130			
Chloroform		5.08	ug/L	1.0	102	80	120			
Chloromethane		5.24	ug/L	1.0	105	70	130			
1,2-Dibromo-3-chloropropane		5.08	ug/L	1.0	102	70	130			
1,2-Dibromoethane		5.00	ug/L	1.0	100	70	130			
Dibromomethane		5.40	ug/L	1.0	108	70	130			
1,2-Dichlorobenzene		5.28	ug/L	1.0	106	70	130			
1,4-Dichlorobenzene		5.48	ug/L	1.0	110	70	130			
trans-1,4-Dichloro-2-butene		5.48	ug/L	1.0	110	70	130			
Dichlorodifluoromethane		5.04	ug/L	1.0	101	70	130			
1,1-Dichloroethane		4.96	ug/L	1.0	99	70	130			
1,2-Dichloroethane		5.04	ug/L	1.0	101	70	130			
1,1-Dichloroethene		5.00	ug/L	1.0	100	80	120			
cis-1,2-Dichloroethene		5.00	ug/L	1.0	100	70	130			
trans-1,2-Dichloroethene		5.04	ug/L	1.0	101	70	130			
1,2-Dichloropropane		5.32	ug/L	1.0	106	80	120			
cis-1,3-Dichloropropene		5.04	ug/L	1.0	101	70	130			
trans-1,3-Dichloropropene		5.40	ug/L	1.0	108	70	130			
Ethylbenzene		5.28	ug/L	1.0	106	80	120			
2-Hexanone		55.6	ug/L	20	111	70	130			
Iodomethane		5.40	ug/L	1.0	108	70	130			
Methyl ethyl ketone		52.8	ug/L	20	106	70	130			
Methyl isobutyl ketone		50.8	ug/L	20	102	70	130			
Methylene chloride		5.04	ug/L	1.0	101	70	130			
Styrene		5.32	ug/L	1.0	106	70	130			
1,1,1,2-Tetrachloroethane		5.48	ug/L	1.0	110	70	130			
1,1,2,2-Tetrachloroethane		5.16	ug/L	1.0	103	70	130			
Tetrachloroethene		5.32	ug/L	1.0	106	70	130			
Toluene		4.96	ug/L	1.0	99	80	120			
1,1,1-Trichloroethane		5.12	ug/L	1.0	102	70	130			
1,1,2-Trichloroethane		5.40	ug/L	1.0	108	70	130			
Trichloroethene		4.92	ug/L	1.0	98	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Client: Hydrometrics Inc-Helena
Project: 1273 City Of Helena Landfill

Report Date: 10/06/09
Work Order: H09100013

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B								Analytical Run: 1SATURN_091002B		
Sample ID: CCV100209A		53 Continuing Calibration Verification Standard								10/02/09 09:44
Trichlorofluoromethane		5.12	ug/L	1.0	102	70	130			
1,2,3-Trichloropropane		5.12	ug/L	1.0	102	70	130			
Vinyl acetate		5.04	ug/L	1.0	101	70	130			
Vinyl chloride		4.80	ug/L	1.0	96	80	120			
m+p-Xylenes		10.1	ug/L	1.0	101	70	130			
o-Xylene		5.16	ug/L	1.0	103	70	130			
Surr: 1,2-Dichloroethane-d4				1.0	93	70	130			
Surr: Dibromofluoromethane				1.0	111	70	130			
Surr: p-Bromofluorobenzene				1.0	103	70	130			
Surr: Toluene-d8				1.0	100	70	130			

Method: SW8260B								Batch: R57091		
Sample ID: LCS100209A		53 Laboratory Control Sample				Run: 1SATURN_091002B		10/02/09 11:11		
Acetone		50.8	ug/L	20	102	70	130			
Acrylonitrile		52.4	ug/L	20	105	70	130			
Benzene		4.32	ug/L	1.0	86	70	130			
Bromochloromethane		4.88	ug/L	1.0	98	70	130			
Bromodichloromethane		4.32	ug/L	1.0	86	70	130			
Bromoform		5.12	ug/L	1.0	102	70	130			
Bromomethane		5.36	ug/L	1.0	107	70	130			
Carbon disulfide		5.20	ug/L	1.0	104	70	130			
Carbon tetrachloride		4.44	ug/L	1.0	89	70	130			
Chlorobenzene		5.28	ug/L	1.0	106	70	130			
Chlorodibromomethane		4.68	ug/L	1.0	94	70	130			
Chloroethane		4.84	ug/L	1.0	97	70	130			
Chloroform		4.60	ug/L	1.0	92	70	130			
Chloromethane		4.84	ug/L	1.0	97	70	130			
1,2-Dibromo-3-chloropropane		4.92	ug/L	1.0	98	70	130			
1,2-Dibromoethane		4.60	ug/L	1.0	92	70	130			
Dibromomethane		4.80	ug/L	1.0	96	70	130			
1,2-Dichlorobenzene		5.20	ug/L	1.0	104	70	130			
1,4-Dichlorobenzene		5.28	ug/L	1.0	106	70	130			
trans-1,4-Dichloro-2-butene		5.04	ug/L	1.0	101	70	130			
Dichlorodifluoromethane		4.64	ug/L	1.0	93	70	130			
1,1-Dichloroethane		4.36	ug/L	1.0	87	70	130			
1,2-Dichloroethane		4.64	ug/L	1.0	93	70	130			
1,1-Dichloroethene		3.65	ug/L	1.0	73	70	130			
cis-1,2-Dichloroethene		4.56	ug/L	1.0	91	70	130			
trans-1,2-Dichloroethene		4.12	ug/L	1.0	82	70	130			
1,2-Dichloropropane		4.44	ug/L	1.0	89	70	130			
cis-1,3-Dichloropropene		4.80	ug/L	1.0	96	70	130			
trans-1,3-Dichloropropene		4.68	ug/L	1.0	94	70	130			
Ethylbenzene		4.88	ug/L	1.0	98	70	130			
2-Hexanone		43.2	ug/L	20	86	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Client: Hydrometrics Inc-Helena
Project: 1273 City Of Helena Landfill

Report Date: 10/06/09
Work Order: H09100013

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R57091
Sample ID: LCS100209A	53	Laboratory Control Sample				Run: 1SATURN_091002B				10/02/09 11:11
Iodomethane		5.04	ug/L	1.0	101	70	130			
Methyl ethyl ketone		45.6	ug/L	20	91	70	130			
Methyl isobutyl ketone		45.6	ug/L	20	91	70	130			
Methylene chloride		4.32	ug/L	1.0	86	70	130			
Styrene		4.68	ug/L	1.0	94	70	130			
1,1,1,2-Tetrachloroethane		4.88	ug/L	1.0	98	70	130			
1,1,2,2-Tetrachloroethane		4.80	ug/L	1.0	96	70	130			
Tetrachloroethene		4.88	ug/L	1.0	98	70	130			
Toluene		4.68	ug/L	1.0	94	70	130			
1,1,1-Trichloroethane		4.48	ug/L	1.0	90	70	130			
1,1,2-Trichloroethane		4.64	ug/L	1.0	93	70	130			
Trichloroethene		4.28	ug/L	1.0	86	70	130			
Trichlorofluoromethane		4.84	ug/L	1.0	97	70	130			
1,2,3-Trichloropropane		4.88	ug/L	1.0	98	70	130			
Vinyl acetate		5.00	ug/L	1.0	100	70	130			
Vinyl chloride		4.40	ug/L	1.0	88	70	130			
m+p-Xylenes		9.36	ug/L	1.0	94	70	130			
o-Xylene		4.56	ug/L	1.0	91	70	130			
Surr: 1,2-Dichloroethane-d4				1.0	97	70	130			
Surr: Dibromofluoromethane				1.0	100	70	130			
Surr: p-Bromofluorobenzene				1.0	108	70	130			
Surr: Toluene-d8				1.0	101	70	130			
Sample ID: H09090383-001CMS	53	Sample Matrix Spike				Run: 1SATURN_091002B				10/02/09 11:40
Acetone		106	ug/L	40	106	70	130			
Acrylonitrile		110	ug/L	40	110	70	130			
Benzene		9.52	ug/L	2.0	95	70	130			
Bromochloromethane		9.12	ug/L	2.0	91	70	130			
Bromodichloromethane		9.28	ug/L	2.0	93	70	130			
Bromoform		10.7	ug/L	2.0	107	70	130			
Bromomethane		11.4	ug/L	2.0	114	70	130			
Carbon disulfide		9.92	ug/L	2.0	99	70	130			
Carbon tetrachloride		8.32	ug/L	2.0	83	70	130			
Chlorobenzene		10.7	ug/L	2.0	107	70	130			
Chlorodibromomethane		10.5	ug/L	2.0	105	70	130			
Chloroethane		9.28	ug/L	2.0	93	70	130			
Chloroform		9.36	ug/L	2.0	90	70	130			
Chloromethane		8.80	ug/L	2.0	88	70	130			
1,2-Dibromo-3-chloropropane		11.0	ug/L	2.0	110	70	130			
1,2-Dibromoethane		9.76	ug/L	2.0	98	70	130			
Dibromomethane		10.5	ug/L	2.0	105	70	130			
1,2-Dichlorobenzene		10.5	ug/L	2.0	105	70	130			
1,4-Dichlorobenzene		10.2	ug/L	2.0	102	70	130			
trans-1,4-Dichloro-2-butene		9.76	ug/L	2.0	98	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Client: Hydrometrics Inc-Helena
Project: 1273 City Of Helena Landfill

Report Date: 10/06/09
Work Order: H09100013

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R57091
Sample ID: H09090383-001CMS										10/02/09 11:40
53 Sample Matrix Spike										Run: 1SATURN_091002B
Dichlorodifluoromethane		8.32	ug/L	2.0	83	70	130			
1,1-Dichloroethane		8.64	ug/L	2.0	86	70	130			
1,2-Dichloroethane		9.20	ug/L	2.0	92	70	130			
1,1-Dichloroethene		7.14	ug/L	2.0	71	70	130			
cis-1,2-Dichloroethene		8.96	ug/L	2.0	90	70	130			
trans-1,2-Dichloroethene		7.53	ug/L	2.0	75	70	130			
1,2-Dichloropropane		9.68	ug/L	2.0	97	70	130			
cis-1,3-Dichloropropene		10.3	ug/L	2.0	103	70	130			
trans-1,3-Dichloropropene		10.6	ug/L	2.0	106	70	130			
Ethylbenzene		9.76	ug/L	2.0	98	70	130			
2-Hexanone		102	ug/L	40	102	70	130			
Iodomethane		9.44	ug/L	2.0	94	70	130			
Methyl ethyl ketone		102	ug/L	40	102	70	130			
Methyl isobutyl ketone		103	ug/L	40	103	70	130			
Methylene chloride		8.00	ug/L	2.0	80	70	130			
Styrene		10.0	ug/L	2.0	100	70	130			
1,1,1,2-Tetrachloroethane		10.6	ug/L	2.0	106	70	130			
1,1,2,2-Tetrachloroethane		10.2	ug/L	2.0	102	70	130			
Tetrachloroethene		9.28	ug/L	2.0	93	70	130			
Toluene		9.12	ug/L	2.0	91	70	130			
1,1,1-Trichloroethane		7.91	ug/L	2.0	79	70	130			
1,1,2-Trichloroethane		11.7	ug/L	2.0	117	70	130			
Trichloroethene		8.80	ug/L	2.0	88	70	130			
Trichlorofluoromethane		9.60	ug/L	2.0	96	70	130			
1,2,3-Trichloropropane		11.5	ug/L	2.0	115	70	130			
Vinyl acetate		11.0	ug/L	2.0	110	70	130			
Vinyl chloride		8.24	ug/L	2.0	82	70	130			
m+p-Xylenes		18.2	ug/L	2.0	91	70	130			
o-Xylene		9.28	ug/L	2.0	93	70	130			
Surr: 1,2-Dichloroethane-d4				2.0	108	70	130			
Surr: Dibromofluoromethane				2.0	102	70	130			
Surr: p-Bromofluorobenzene				2.0	101	70	130			
Surr: Toluene-d8				2.0	100	70	130			
Sample ID: H09090383-001CMSD										10/02/09 12:09
53 Sample Matrix Spike Duplicate										Run: 1SATURN_091002B
Acetone		112	ug/L	40	112	70	130	5.9	20	
Acrylonitrile		118	ug/L	40	118	70	130	7	20	
Benzene		10.8	ug/L	2.0	108	70	130	13	20	
Bromochloromethane		9.84	ug/L	2.0	98	70	130	7.6	20	
Bromodichloromethane		9.36	ug/L	2.0	94	70	130	0.9	20	
Bromoform		10.6	ug/L	2.0	106	70	130	1.5	20	
Bromomethane		11.5	ug/L	2.0	115	70	130	1.4	20	
Carbon disulfide		10.3	ug/L	2.0	103	70	130	4	20	
Carbon tetrachloride		9.44	ug/L	2.0	94	70	130	13	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Client: Hydrometrics Inc-Helena
Project: 1273 City Of Helena Landfill

Report Date: 10/06/09
Work Order: H09100013

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R57091
Sample ID: H09090383-001CMSD 53 Sample Matrix Spike Duplicate										Run: 1SATURN_091002B 10/02/09 12:09
Chlorobenzene		10.5	ug/L	2.0	105	70	130	2.3	20	
Chlorodibromomethane		10.1	ug/L	2.0	101	70	130	3.9	20	
Chloroethane		10.6	ug/L	2.0	106	70	130	13	20	
Chloroform		9.76	ug/L	2.0	94	70	130	4.2	20	
Chloromethane		9.28	ug/L	2.0	93	70	130	5.3	20	
1,2-Dibromo-3-chloropropane		10.0	ug/L	2.0	100	70	130	9.9	20	
1,2-Dibromoethane		9.60	ug/L	2.0	96	70	130	1.7	20	
Dibromomethane		9.36	ug/L	2.0	94	70	130	11	20	
1,2-Dichlorobenzene		10.5	ug/L	2.0	105	70	130	0	20	
1,4-Dichlorobenzene		10.2	ug/L	2.0	102	70	130	0	20	
trans-1,4-Dichloro-2-butene		11.5	ug/L	2.0	115	70	130	17	20	
Dichlorodifluoromethane		8.72	ug/L	2.0	87	70	130	4.7	20	
1,1-Dichloroethane		9.12	ug/L	2.0	91	70	130	5.4	20	
1,2-Dichloroethane		10.0	ug/L	2.0	100	70	130	8.3	20	
1,1-Dichloroethene		8.08	ug/L	2.0	81	70	130	12	20	
cis-1,2-Dichloroethene		9.28	ug/L	2.0	93	70	130	3.5	20	
trans-1,2-Dichloroethene		8.16	ug/L	2.0	82	70	130	8.1	20	
1,2-Dichloropropane		9.28	ug/L	2.0	93	70	130	4.2	20	
cis-1,3-Dichloropropene		9.52	ug/L	2.0	95	70	130	8.1	20	
trans-1,3-Dichloropropene		10.4	ug/L	2.0	104	70	130	2.3	20	
Ethylbenzene		9.92	ug/L	2.0	99	70	130	1.6	20	
2-Hexanone		96.0	ug/L	40	96	70	130	5.7	20	
Iodomethane		10.6	ug/L	2.0	106	70	130	12	20	
Methyl ethyl ketone		109	ug/L	40	109	70	130	6.1	20	
Methyl isobutyl ketone		99.2	ug/L	40	99	70	130	4	20	
Methylene chloride		8.24	ug/L	2.0	82	70	130	3	20	
Styrene		9.60	ug/L	2.0	96	70	130	4.1	20	
1,1,1,2-Tetrachloroethane		11.1	ug/L	2.0	111	70	130	4.4	20	
1,1,2,2-Tetrachloroethane		9.92	ug/L	2.0	99	70	130	2.4	20	
Tetrachloroethene		9.20	ug/L	2.0	92	70	130	0.9	20	
Toluene		9.20	ug/L	2.0	92	70	130	0.9	20	
1,1,1-Trichloroethane		8.56	ug/L	2.0	86	70	130	7.9	20	
1,1,2-Trichloroethane		10.0	ug/L	2.0	100	70	130	15	20	
Trichloroethene		8.64	ug/L	2.0	86	70	130	1.8	20	
Trichlorofluoromethane		9.76	ug/L	2.0	98	70	130	1.7	20	
1,2,3-Trichloropropane		10.2	ug/L	2.0	102	70	130	13	20	
Vinyl acetate		11.2	ug/L	2.0	112	70	130	2.2	20	
Vinyl chloride		8.72	ug/L	2.0	87	70	130	5.7	20	
m+p-Xylenes		18.4	ug/L	2.0	92	70	130	1.3	20	
o-Xylene		9.12	ug/L	2.0	91	70	130	1.7	20	
Surr: 1,2-Dichloroethane-d4				2.0	112	70	130	0	20	
Surr: Dibromofluoromethane				2.0	108	70	130	0	20	
Surr: p-Bromofluorobenzene				2.0	99	70	130	0	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Client: Hydrometrics Inc-Helena
Project: 1273 City Of Helena Landfill

Report Date: 10/06/09
Work Order: H09100013

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R57091
Sample ID: H09090383-001CMSD										
53 Sample Matrix Spike Duplicate				Run: 1SATURN_091002B						
Surr: Toluene-d8				2.0	100	70	130	0	20	
Sample ID: MB100209A										
53 Method Blank				Run: 1SATURN_091002B						
Acetone		ND	ug/L	20						
Acrylonitrile		ND	ug/L	20						
Benzene		ND	ug/L	1.0						
Bromochloromethane		ND	ug/L	1.0						
Bromodichloromethane		ND	ug/L	1.0						
Bromoform		ND	ug/L	1.0						
Bromomethane		ND	ug/L	1.0						
Carbon disulfide		ND	ug/L	1.0						
Carbon tetrachloride		ND	ug/L	1.0						
Chlorobenzene		ND	ug/L	1.0						
Chlorodibromomethane		ND	ug/L	1.0						
Chloroethane		ND	ug/L	1.0						
Chloroform		ND	ug/L	1.0						
Chloromethane		ND	ug/L	1.0						
1,2-Dibromo-3-chloropropane		ND	ug/L	1.0						
1,2-Dibromoethane		ND	ug/L	1.0						
Dibromomethane		ND	ug/L	1.0						
1,2-Dichlorobenzene		ND	ug/L	1.0						
1,4-Dichlorobenzene		ND	ug/L	1.0						
trans-1,4-Dichloro-2-butene		ND	ug/L	1.0						
Dichlorodifluoromethane		ND	ug/L	1.0						
1,1-Dichloroethane		ND	ug/L	1.0						
1,2-Dichloroethane		ND	ug/L	1.0						
1,1-Dichloroethene		ND	ug/L	1.0						
cis-1,2-Dichloroethene		ND	ug/L	1.0						
trans-1,2-Dichloroethene		ND	ug/L	1.0						
1,2-Dichloropropane		ND	ug/L	1.0						
cis-1,3-Dichloropropene		ND	ug/L	1.0						
trans-1,3-Dichloropropene		ND	ug/L	1.0						
Ethylbenzene		ND	ug/L	1.0						
2-Hexanone		ND	ug/L	20						
Iodomethane		ND	ug/L	1.0						
Methyl ethyl ketone		ND	ug/L	20						
Methyl isobutyl ketone		ND	ug/L	20						
Methylene chloride		ND	ug/L	1.0						
Styrene		ND	ug/L	1.0						
1,1,1,2-Tetrachloroethane		ND	ug/L	1.0						
1,1,2,2-Tetrachloroethane		ND	ug/L	1.0						
Tetrachloroethene		ND	ug/L	1.0						
Toluene		ND	ug/L	1.0						
1,1,1-Trichloroethane		ND	ug/L	1.0						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



ENERGY LABORATORIES, INC. * 3161 E Lyndale (59604) * PO Box 5688 * Helena, MT 59601
* 406.442.0711 * FAX 406.442.0712 * helena@energylab.com

QA/QC Summary Report

Client: Hydrometrics Inc-Helena
Project: 1273 City Of Helena Landfill

Report Date: 10/06/09
Work Order: H09100013

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: R57091
Sample ID: MB100209A	53	Method Blank					Run: 1SATURN_091002B			10/02/09 13:21
1,1,2-Trichloroethane		ND	ug/L	1.0						
Trichloroethene		ND	ug/L	1.0						
Trichlorofluoromethane		ND	ug/L	1.0						
1,2,3-Trichloropropane		ND	ug/L	1.0						
Vinyl acetate		ND	ug/L	1.0						
Vinyl chloride		ND	ug/L	1.0						
m+p-Xylenes		ND	ug/L	1.0						
o-Xylene		ND	ug/L	1.0						
Surr: 1,2-Dichloroethane-d4				1.0	93	70	130			
Surr: Dibromofluoromethane				1.0	105	70	130			
Surr: p-Bromofluorobenzene				1.0	99	70	130			
Surr: Toluene-d8				1.0	98	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Energy Laboratories Inc

Workorder Receipt Checklist



H09100013

Hydrometrics Inc

Login completed by: Wanda Johnson

Date and Time Received: 10/1/2009 12:20 PM

Reviewed by: BL2000\ablackburn

Received by: wjj

Reviewed Date: 10/6/2009 3:57:01 PM

Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature:	-1.6°C On Ice		
Water - VOA vials have zero headspace?	Yes ☒	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☒

Contact and Corrective Action Comments:

None

3020 Bozeman Avenue • Helena, Montana 59601 • (406) 443-4150

3020 Bozeman Avenue • Helena, Montana 59601 • (406) 443-4150

HFORM-1-5/99

Return results & electronic copy to:
QA/QC Dept. at address at top of page

Split Samples:
☐ Accepted ☐ Declined _____ Signature _____

Sprinkler

CHHL - 9/30/09

12:00

2/40' w/ HCL/VOL

0909 -

1/40' w/ Run/VOL

100

Weather

Rain, Overcast, 50°

GUESSiteHmFloorTotal

HL-99-3

3087.1

36.4

434699

749771

HL-99-2

2829.4

18.3

186063

184605

HL-99-1

1384.6

Ø

—
—

Same As Before

